EXHIBITS TO THE DIRECT TESTIMONY OF GREGORY L. BOOTH

EXHIBIT A

RESUME OF GREGORY L. BOOTH, PE, PLS President Gregory L. Booth, PLLC

Gregory L. Booth is a registered professional engineer with engineering, financial, and management services experience in the areas of utilities, industry private businesses and forensic investigation. He has been representing over 300 clients in some 40 states for more than 50 years. Mr. Booth was inducted into the North Carolina State University Electrical and Computer Engineering Alumni Hall of Fame in November of 2016 based on his accomplishments in the field of engineering.

Mr. Booth has been accepted as an expert before state and federal regulatory agencies, including the Federal Energy Regulatory Commission, the Delaware Public Service Commission, the Connecticut Public Utilities Regulatory Authority, Florida Public Service Commission, the Minnesota Department of Public Service Environmental Quality Board, the Maine Public Utilities Commission, the Massachusetts Department of Public Utilities, the New Jersey Board of Public Utilities, the North Carolina Utilities Commission, the Pennsylvania Public Utility Commission, the Rhode Island Public Utilities Commission, and the Virginia State Corporation Commission. Mr. Booth has provided expert witness services on over 500 tort case matters, and over 50 regulatory matters. Investigation and testimony experience includes areas of wholesale and retail rates, utility acquisition, territorial disputes, electric service reliability, right-of-way acquisition and impact of electromagnetic fields and evaluation of transmission line options for utility commissions.

He has been accepted as an expert in both state and federal courts, including Colorado, Delaware, District of Columbia, Florida, Georgia, Kansas, Maryland, Minnesota, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Puerto Rico, South Carolina, Texas, Virginia, West Virginia, Virgin Islands, and Wisconsin, and numerous Federal Court jurisdictions. Mr. Booth has extensive experience serving as an expert witness before state and federal courts on matters including property damage, forensic evaluation, fire investigations, fatality, and areas of electric facility disputes and Occupational, Safety and Health Administration violations and investigations together with National Electrical Code and National Electrical Safety Code and Industry Standard compliance.

The following pages provided are the education and experience from 1963 through the present, along with courses taught and publications.

RESUME OF GREGORY L. BOOTH, PE, PLS

Mr. Booth is a Registered Professional Engineer with engineering, financial, and management experience assisting local, state, and federal governmental units; rural electric and telephone cooperatives; investor owned utilities, industrial customers and privately owned businesses. He has extensive experience representing clients as an expert witness in regulatory proceedings, private negotiations, and litigation.

<u>PROFESSIONAL</u> EDUCATION:	NORTH CAROLINA STATE UNIVERSITY; Raleigh NC, Bachelor of Science, Electrical Engineering, 1969			
<u>PROFESSIONAL</u> <u>HONORS:</u>	Inducted into North Carolina State University Department of Electrical and Computer Engineering Alumni Hall of Fame in November 2016.			
<u>REGISTRATIONS:</u>	Registered as Professional Engineer in Alabama, Arizona, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Kansas, Maryland, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Texas, Commonwealth of Virginia, West Virginia, and Wisconsin Professional Land Surveyor in North Carolina Council Record with National Council of Examiners for Engineering and Surveying			
EXPERIENCE:				
1963-1967 Technician Booth & Associates	Transmission surveying and design assistance, substation design assistance; distribution staking; construction work plan, long-range plan, and sectionalizing study preparation assistance for many utilities, including Cape Hatteras EMC, Halifax EMC, Delaware Electric Cooperative, Prince George Electric Cooperative, A&N Electric Cooperative; assistance generation plant design, start-up, and evaluations.			
1967-1973 Project Engineer Booth & Associates	Transmission line and substation design; distribution line design; long-range and construction work plans; rate studies in testimony before State and Federal commissions; power supply negotiations; all other facets of electrical engineering for utility systems and over 30 utilities in 10 states.			
1973-1975 Professional Engineer Associates 1975-1994 Executive Vice President Booth & Associates	Directed five departments of Booth & Associates, Inc.; provided engineering services to electric cooperatives and other public Booth & power utilities in 23 states; provided expert testimony before state regulatory commissions on rates and reliability issues; in accident investigations and tort proceedings; transmission line routing and designs; generation plant designs; preparation and presentation of long- range and construction work plans; relay and sectionalizing studies; relay design and field start-up assistance; generation plant designs; rate and cost-of-service studies; reliability studies and analyses; filed testimony, preparation and teaching of seminars; preparation of nationally published			

manuals; numerous special projects for statewide organizations, including North Carolina EMC. Work was provided to over 130 utility clients in 23 states, PWC of the City of Fayetteville, NC, Cities of

Wilson, Rocky Mount and Greenville are among the utilities in which I have provided engineering services in North Carolina during this time frame. Services to industrial customers include Texfi Industries, Bridgestone Firestone, Inc and many others.

Responsible for the direction of the engineering and operations of Booth & Associates, Inc. for all divisions and departments. The engineering work during this time frame has continued to be the same as during 1974 through 1993 with the addition of greater emphasis on power supply issues, including negotiating power supply contracts for clients; increased involvement in peaking generation projects; development of joint transmission projects, including wheeling agreements, power supply analyses, and power audit analyses. The work during this time frame includes providing services to over 200 utility clients across the United States, including NCEMC and NRECA.

Providing engineering and management services to the electric industry, including planning and design and utility acquisition. Providing forensic engineering, product evaluation, fire investigations and accident investigation, serving as an expert witness in state and federal regulatory matters and state and federal court.

Providing engineering and management services to the electric industry, including planning and design. Providing forensic engineering, product evaluation, fire investigations and accident investigation, serving as an expert witness in state and federal regulatory matters and state and federal court.

- All aspects of utility planning, design and construction, from generation, transmission, substation and distribution to the end user.
- Utility acquisition expert, including providing condition assessment, system electrical and financial valuation, electrical engineering assessment, initial Work Plan and integration plans, acquisition loan funds, testimony, assessment and consulting services for numerous electric utility acquisitions. Utility clients for acquisition projects include Winter Park, FL acquisition of Progress Energy, FL, system in the City limits, A & N Electric Cooperative acquisition of the Delmarva Power & Light Virginia jurisdiction, Shenandoah Valley Electric Cooperative acquisition of Allegheny Energy Virginia jurisdiction, Rappahannock Electric Cooperative acquisition of Allegheny Energy Virginia jurisdiction, and numerous other past and currently active electric utility acquisitions.
- System studies, including long-range and short-range planning, sectionalizing studies, transmission load flow studies, system stability studies (including effects of imbalance and neutral-to-earth voltage), environmental analyses and impact studies and statements, construction work plan, power requirements studies, and feasibility studies.

1994-2004 President Booth & Associates

2005-August 2019 President PowerServices, Inc.

2004-Present President Gregory L. Booth, PLLC

WORK AND EXPERTISE:

ELECTRIC UTILITIES:

(more than 300 clients)

- Fossil, hydro, microgrid, wind, and solar generation plan analysis, design, and construction observation.
- Transmission line design and construction observation through 230 kV overhead and underground, including interface with DOT and other utilities.
- Switching station and substation design and construction observation through 230 kV.
- Distribution line design and staking, overhead and underground, including interface with DOT and other utilities.
- Design of submarine cable installations. (Transmission and distribution)
- Supervisory control and data acquisition system design, installation and operation assistance.
- Load management system design, installation and operation assistance.
- Computer program development.
- Load research and alternative energy source evaluation.
- Field inspection, wiring, and testing of facilities.
- Relay and energy control center design.
- Mapping and pole inventories.
- Specialized grounding for abnormal lightning conditions.
- Ground potential rise protection.
- Protective system/relay coordination.
- Grid Modernization Plan development, regulatory testimony, and implementation
- Pole Attachment Agreements, rate design, and testimony

UTILITY OPERATIONS:

- Storm assessment services., including interface with DOT and other utilities
- Regulatory testimony on storm response.
- Storm Response Plan development.
- Operations, including outage management and Call Centers.
- Outage management and operations enhancement services and testimony.

• Intermediate and peaking generation (gas and oil fired through 400 MW).

- Peaking generation (diesel and gas through 10,000 kW)
- Wind generation.
- Solar (PV) generation.
- Hydroelectric generation.
- Microgrid, including energy storage.
- Subscriber and trunk carrier facilities design.
- Stand-by generation and DC power supplies
- DC-AC inverters for interrupted processor supplies.
- Plant design and testing.
- Fiber optics and other transmission media.
- Microwave design.
- Pole attachment designs and make-ready design.
- Pole Attachment Agreements and rental rates calculations.
- Regulatory testimony.

GENERATION DESIGN / FAILURE ANALYSES:

TELECOMMUNICATION:

UTILITIES:

FINANCIAL SERVICES:

- Long-term growth analyses and venture analyses.
- Lease and cost/benefit analyses.
- Capital planning and management.
- Utility rate design and service regulations.
- Cost-of-Service studies.
- Franchise agreements.
- Corporate accounting assistance.
- Utility Commission testimony (State and Federal)

FORENSIC ENGINEERING:

INDUSTRIAL/ELECTRICAL ENGINEERING:

INSTRUCTIONAL SEMINARS AND TEXT:

TESTIMONY AS AN EXPERT:

- Compliance with NESC, NEC, OSHA, IEEE, ANSI, ASTM and other codes and industry standards, including DOT standards.
- Equipment and product failure and analysis and electrical accident investigation (high and low voltage equipment).
- Stray voltage, electrical shocking, and electrocution investigations.
- Building code investigations.
- New product evaluation.
- MCC, MDP failure analysis and arc flash analysis
- Electrical fire analysis
- Building design (commercial and industrial).
- Building code application and investigation. (NFPA and NEC)
- Electric thermal storage designs for heating, cooling, and hot water.
- Standby generation and peaking generation design.
- Electric service design (residential, commercial, and industrial).
- Seminars taught on arc flash hazards and safety, including National Electrical Safety Code regulations for utilities.
- Courses taught on Distribution System Power Loss Evaluation and Management.
- Courses taught on Distribution System Protection.
- Text prepared on Distribution System Power Loss Management.
- Text prepared on Distribution System Protection.
- Seminars taught on substation design, NESC capacitor application, current limiting fuses, arresters, and many others electrical engineering subjects.
- Courses taught on accident investigations and safety.
- Courses taught on Asset Management.
- Courses taught on OSHA and Construction Safety.
- Concerning rate and other regulatory issues before Federal Energy Regulatory Commission and state commissions in Connecticut, Delaware, Florida, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New Hampshire, North Carolina, Pennsylvania, Rhode Island, and Virginia.
- Concerning property damage or personal injury before courts in Colorado, Delaware, District of Columbia, Florida, Georgia, Kansas, Maryland, Minnesota, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Puerto Rico, South Carolina, Texas, Virginia, West Virginia, Virgin Islands, and Wisconsin.

FIELD ENGINEERING:

- Transmission line survey and plan and profile.
- Distribution line staking.
- Property surveying.
- DOT highway relocation design.
- Relay and recloser testing.
- Substation start-up testing.
- Generation acceptance and start-up testing.
- Ground resistivity testing.
- Work order inspections.
- Operation and maintenance surveys.
- Building inspection and service facility inspection.
- Construction Management
 - Generation
 - Transmission
 - Substation
 - Distribution
 - Building Electrical Installations
 - GSA construction projects
 - NASA construction projects
 - University construction projects
- a. National Society of Professional Engineers (NSPE) #100106558
- b. Professional Engineers in Private Practice (PEPP) (practice group of NSPE)
- c. National Council of Examiners for Engineering & Surveying (NCEES) #22992
- d. Professional Engineers of North Carolina (PENC) #100106558 (part of NSPE account)
- e. National Fire Protection Association (NFPA) #308531
- f. Associate Member of the NRECA #NF413042
- g. NRECA Cooperative Network Advisory Committee (NRECA-CRN) (participated on committee)
- h. The Institute of Electrical and Electronics Engineers (IEEE) #05567342 (Distribution sub-committee members on reliability)
- i. American Standards and Testing Materials Association (ASTM) #000104295
- j. Occupational Safety and Health Administration (OSHA) Certification
- k. American Public Power Association (APPA) #68302
- 1. American National Standards Institute (ANSI) #279332

<u>PROFESSIONAL</u> ORGANIZATIONS:

Com	monwealth of Virginia State Corporation Commission	
	<u>1976</u>	
	Approximately 1976 - 1981 A&N Electric Cooperative Retail Rates Cases	
		(HE)
	2007	
	Delmarva Power & Light System Acquisition Purchase for A & N Electric Cooperative, Post Of 21275 Cooperative Way, Tasley, VA 23441 and Old Dominion Electric Cooperative, 4201 Dor Glen Allen, VA 23060	
	Case Nos. PUE-2007-00060, 00061, 00062, 00063, and 00065	(HE)
	2009	
	Potomac Edison/Allegheny Power System Acquisition Purchase for Shenandoah Valley Electric Dinkel Ave., Hwy 257, Mt. Crawford, VA 22841	c Cooperative, 147
	Case No. PUE-2009-00101	(HE)
	2009	
	Potomac Edison/Allegheny Power System Acquisition Purchase for Rappahannock Electric Coc Industrial Court, Fredericksburg, VA 22408	operative, 247
	Case No. PUE-2009-0010	(HE)
	<u>2011</u>	
	Virginia, Maryland & Delaware Association of Electric Cooperatives Commonwealth of Virgini the State Corporation Commission in the Matter of Determining Appropriate Regulation of Pole Cost Sharing in Virginia	
	Case No. PUE-2011-00033	(HE)
	2013	
	Northern Virginia Electric Cooperative Pole Attachment Dispute with ComCast	
	PUE-2013-00055	(HE)

Connecticut Public Utilities Regulatory Authority

2017

The Connecticut Light and Power Company d/b/a Eversource Energy to Amend its Rate Schedules on behalf of the Connecticut Office of Consumer Counsel

Docket No. 17-10-46

Connecticut Public Utilities Regulatory Authority

2018

PURA Investigation into Distribution System Planning of the Electric Distribution Companies on behalf of the Connecticut Office of Consumer Counsel

Docket No. 17-12-03

Connecticut Public Utility Regulatory Authority

2020

Subdockets RE02-RE09 and RE11

17-12-03

2020

Phases II and III and IV

17-12-03

<u>2020</u>

PURA Implementation of Section 3 of Public Act 19-35, Renewable Energy Tariffs and Procurement Plans

20-07-01

Delaware Public Service Commission

<u>1976</u>

Approximately 1976 - 1985 Delaware Electric Cooperative, Inc., Retail Rate Case and Reliability Cases

<u>2018</u>

Delaware Distribution Planning Process Phase II

18-0935

<u>2018</u>

Delaware Distribution Planning Process, Phase I

18-0935

<u>2018</u>

In The Matter of the Petition of the Public Service Commission Staff and Delaware Division of the Public Advocate to Establish a Regulation for Distribution System Investment Plans for Delaware Electric and Natural Gas Utilities

18-0935

HE = Hearing WT = Written Testimony November 2021

Engineering and Management Services

(HE)

Delaware Public Service Commission 2020 Delaware Distribution Planning Process Phase III 18-0935 2020 Application of Delmarva Power & Light Company for an Increase in Electric Base Rates 20-0149 2020 Evaluation of the Delmarva Power & Light Company's Infrastructure, Safety, and Reliability Plan for the period of July 1, 2020 to June 30,2020 18-0935 **Federal Energy Regulatory Commission** Public Works Commission of the City of Fayetteville, NC v. Carolina Power & Light Company (HE) ER76-, ER77-, ER78, ER81-344, ER84-2000 North Carolina Electric Membership Corporation v. Duke Energy Corporation and Duke Electric Transmission ER01-282-000 and ER01-283-000 (HE) 2000 North Carolina Electric Membership Corporation v. Virginia Electric Power Company dba North Carolina Power EL90-26-00-000 (HE) 2015 Application for Authorization Pursuant to Section 203(a)(1)(A) and 203(a)(2) of the Federal Power Act and Request for Waivers of Certain Filing Requirements on behalf of New Jersey Division of Rate Counsel Dkt EC15- -000 Florida Public Service Commission (PSC) 2007 Municipal Utility Underground Consortium Pre-Filed Testimony for Storm Hardening and Undergrounding Assessment Docket Nos. 07023-EI, 080244-EI, and 080522-EI (HE)

HE = Hearing WT = Written Testimony

Engineering and Management Services

(HE)

(WT)

ACTIVE AND HISTORIC REGULATORY CASES BY GREGORY L. BOOTH, PE, PLS

Florida Public Service Commission (PSC)

2007

Gulf Power Company's Storm Hardening Plan Pre-filed Testimony on Behalf of City of Panama City Beach, Florida

Florida PSC Docket No. 070299-EI

Georgia Public Service Commission

2020

Notice of Proposed Rulemaking to Adopt Rule 515-12-1-.36, Pole Attachment Agreements

Docket No. 43453

Maine Public Utilities Commission

2016

Efficiency Maine Trust Request for Examination of Voltage Optimization Pilot Program Docket No. 2016-00162 on behalf of Maine Office of Public Advocate

Dkt. 2016-00162

<u>2017</u>

Investigation into the Designation of Non-Transmission Alternative (NTA) Coordinator on behalf of Maine Office of Public Advocate

Docket No. 2016-00049

2017

Investigation of Inclusion of Acadia Substation Investment in Rates Pertaining to Emera Maine on behalf of Maine Office of Public Advocate

Docket No. 2017-00018

Massachusetts Department of Public Utilities

2012

Massachusetts Attorney General's Office Commonwealth of Massachusetts Department of Public Utilities Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid Review for Storm Response and Recovery of 2008 Storm Costs

DPU 11-56

2012

Massachusetts Attorney General's Office Western Massachusetts Electric Company, Northeast Utilities System, Review for Recovery of Storm Costs

DPU 11-102/DPU 11-102A

HE = Hearing WT = Written Testimony

November 2021

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Engineering and Management Services

(WT) (HE)

Engineering and Management Services

DOCKET NO. D-21-09

ACTIVE AND HISTORIC REGULATORY CASES BY GREGORY L. BOOTH, PE, PLS

Massachusetts Attorney General's Office Nstar Review for Recovery of Storm Costs	
DPU 13-52	(WT) (HE)
2014	
Massachusetts Attorney General's Office National Grid Solar Generation Phase II Program Asser	ssment
D.P.U. 14-01	(WT)
2014	
Massachusetts Attorney General's Office Western Massachusetts Electric Company, Review of S Reserve Cost Adjustment "SRRCA"	Storm Recovery
D.P.U. 13-135	(WT) (HE)
<u>2016</u>	
Massachusetts Attorney General's Office MA Elec. Co. and Nantucket Elec. Co. d/b/a National C and Elec. Light Co. d/a/a Unitil and NSTAR Elec. Co. d/b/a Eversource for Approval by the DPM Modernization Plan	
DPU 15-120, 15-121, 15-122/15-123	(HE)
2017	
Massachusetts Attorney General's Office Nstar Electric Company and Western Massachusetts El d/b/a Eversource Energy Petition for Approval of a Performance-Based Ratemaking Mechanism Distribution Revenue Change	· · ·
DPU 17-05	(WT) (HE)
2017	
Massachusetts Attorney General's Office Petition of Massachusetts Electric Company and Nantu	cket Flectric

Massachusetts Attorney General's Office Petition of Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid for Pre-Approval of Enhanced Vegetation Management Pilot Program

DPU 17-92

Massachusetts Department of Public Utilities

2013

2018

Massachusetts Attorney General's Office Massachusetts Eversource Performance Based Ratemaking Mechanism Performance Metrics

DPU 18-50

Massachusetts Department of Public Utilities

2018

Massachusetts Attorney General's Office Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid Storm Cost Recovery

DPU 18-94

<u>2019</u>

Massachusetts Attorney General's Office National Grid Rate Case

DPU 18-150

Minnesota Department of Public Service/Environmental Quality Board

Transmission Line Assessment Minnesota Department of Public Service and Minnesota Environmental Quality Board

(HE)

(HE)

(HE)

New Hampshire Public Utilities Commission

1985

Approximately 1985 - 1995 Other Cases on Behalf of the New Hampshire Public Utilities Commission Staff

2004

City of Bedford v. Public Service of New Hampshire

New Jersey Board of Public Utilities

<u>1978</u>

Approximately 1978 - 1985 Sussex Rural Electric Cooperative Retail Rate Cases

2004 New Jersey Board of Public Utilities, Focused audit of the planning, operations and maintenance practices, policies and procedures of Jersey Central Power & Light Company

Docket No. EX02120950

<u>2015</u>

Jersey Central Power & Light Company ("JCP&L") and Mid-Atlantic Interstate Transmission, LLC ("MAIT") FERC 7 Factor Test Evaluation on behalf of New Jersey Division of Rate Counsel

BPU Docket No. EM15060733

HE = Hearing WT = Written Testimony November 2021

Engineering and Management Services

(WT)

New Jersey Board of Public Utilities

2016

Atlantic City Electric Company for Approval of Amendments to its Tariff to Provide for an Increase in Rates and Charges For Electric Service Pursuant to NJSA 48:2-21 and JJSA 48:2-21.1 on behalf of New Jersey Division of Rate Counsel

DPU Docket No. ER16030252 OAL Docket No. PUC 5556-16

North Carolina Utilities Commission

<u>1990</u>	
Delora Dennis, et. al. v. Haywood EMC	
E-7, Sub 474, EC-10, Sub 37, E013, Sub 151	(HE)
<u>1990</u>	
In Approximately 1990's Larry Eaves, et. al. v. Town of Clayton	
	(HE)
<u>1990</u>	
In approximately 1990's Poly-Loc v. Town of Tarboro	
	(HE)
<u>2001</u>	
Wake EMC Right of Way Acquisition	
	(TE)

2002

Progress Energy Carolinas, Inc., v. E.M. Harris, Jr. Family Limited Partnership, Edward M. Harris, III and wife Pamela M. Harris, Gene K. Harris and wife Linda Harris, Camille H. Cunnup and husband Timothy J. Cunnup Siler City Transmission Line Issues

General Court of Justice Superior Court Division, File No. 03 CVS SP 251, 252, 253, 254, (WT) (HE) 255

<u>2004</u>

John Wardlaw, et. al. Interveners v. Progress Energy Carolinas

Docket No. E-2, Sub 855 (HE)

2011

Frontier Communications of the Carolinas, Inc. v. Blue Ridge Mountain Electric Membership Corporation

11-CVS-17175

HE = Hearing WT = Written Testimony November 2021

Engineering and Management Services

North Carolina Utilities Commission

2017

Jones-Onslow Electric Membership Corporation; Surry-Yadkin Electric Membership Corporation; Carteret-Craven Electric Membership Corporation; Union Electric Membership Corporation, d/b/a Union Power Cooperative v. Time Warner Cable Southeast, LLC

NCUC Docket Nos. EC-43 5888, EC-49 555, EC55 570 and EC-39 S44

<u>2017</u>

Blue Ridge Electric Membership Corporation v. Charter

Docket No EC-23, SUB 50

Pennsylvania Public Utility Commission

2004

Investigation regarding the Metropolitan Edison Company Pennsylvania Electric Company and Pennsylvania Power Company Reliability Performance on behalf of Allegheny Electric Cooperative and its Member Cooperatives

Docket No. I-00040102 (WT) (HE)

2006

Investigation regarding Pennsylvania Rural Electric Association / Allegheny Electric Cooperative and its Member Cooperatives Rates

Docket Nos. R-00061366, R-0061367, et. al.

2007

Wellsboro Electric Company participants Included C&T Enterprises, Inc., comprised of Wellsboro Electric Company, Claverack Rural Electric Cooperative, Inc., Tri-County Rural Electric Cooperative, Inc., and Citizens Electric

Docket No. P-2008-2020257

2014

Allegheny Electric Cooperative and its Member Cooperatives 2014 Intervention Assistance, Analysis of Service Reliability Concerns Regarding West Pennsylvania Power Company, Pennsylvania Electric Company, Metropolitan Edison Company (First Energy Company)

Docket Nos. R-2014-2428742, -2428743, -2428744, -248745 (WT)

2015

MAIT and PENELEC for Authorizing the Transfer of Certain Transmission Assets from MET-Ed & PENELEC to MAIT on behalf of Wellsboro Electric Company

A-2015-2488903 (cons.)

HE = Hearing WT = Written Testimony November 2021

Engineering and Management Services

(WT) (HE)

Rhode Island Public Utilities Commission

<u>1997</u>

1990 - 1997 Other Matters Before the Rhode Island Public Utilities Commission on behalf of Rhode Island Division of Public Utilities and Carriers

(WT) (HE) 1997

Testimony before the Rhode Island Public Utilities Commission, on behalf of Rhode Island Division of Public Utilities and Carriers, May 15, 1997

Docket No. 2489 (WT) (HE) 2003

Testimony before the Rhode Island Public Utilities Commission on behalf of Rhode Island Division of Public Utilities and Carriers December 2003

Docket No. 2930 (WT) (HE) 2004

Issuance of Advisory Opinion to Energy Facility Siting Board Regarding The Narragansett Electric Company's Application to Relocate Transmission Lines Between Providence and East Providence on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 3564 (WT) (HE) 2006

Issuance of Advisory Opinion to Energy Facility Siting Board Regarding the Narragansett Electric Company d/b/a National Grid's Application to Construct and Alter Major Energy Facilities, on behalf of Rhode Island Division of Public Utilities and Carriers, 2004

Docket No. 3732

2007

Issuance of Advisory Opinion to RIDPUC in the Matter of the Joseph Allard Fatality Involving Verizon and National Grid on behalf of Rhode Island Division of Public Utilities and Carriers

2008

Issuance of Advisory Opinion to Energy Facility Siting Board Regarding the Narragansett Electric Company d/b/a National Grid's Application to Construct and Alter Major Energy Facilities, on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4029

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Engineering and Management Services

(WT) (HE)

Rhode Island Public Utilities Commission

2010

Rhode Island Division of Public Utilities and Carriers Narragansett Tariff Investigation on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. R.I.P.U.C. 4065

2010

National Grid Proposed Electric Infrastructure, Safety and Reliability Plan for FY 2012 Submitted Pursuant to R.I.G.L. § 39-1-27.7.1 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4218 (WT) (HE) 2012

National Grid Electric FY 2013 Electric Infrastructure, Safety and Reliability Plan on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4307 (WT) (HE)

2012

National Grid Hurricane Irene Response Assessment, 2012 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. D-11-94

2012

Public Utilities Commission Review of Storm Contingency Funds of Electric Utilities on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 2509 (WT) (HE)

2012

Commission's Investigation Relating to Stray and Contact Voltage on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4237

2012

Rhode Island Public Utilities Commission Interstate Reliability Assessment on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4360

(WT)

(WT) (HE)

Engineering and Management Services

ACTIVE AND HISTORIC REGULATORY CASES BY GREGORY L. BOOTH, PE, PLS

Rhode Island Public Utilities Commission

2012

National Grid Electric Infrastructure, Safety, and Reliability Plan for 2014 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4382 (WT) (HE) 2014

National Grid Electric Infrastructure, Safety, and Reliability Plan 2015 Proposal on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4473 2014

National Grid's FY 2016 Electric Infrastructure, Safety and Reliability Plan on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4539 (WT) (HE)

2015

Division's Investigation into Verizon's Vegetation Management Practices on behalf of Rhode Island Division of Public Utilities and Carriers

2015

Wind Energy Development, LLC (WED) and ACP Land, LLC Petition for Dispute Resolution Relating to Interconnection on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4483 (WT)

2015

National Grid Electric Infrastructure, Safety, and Reliability Plan FY 2017 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4592

2016

PUC Advisory Opinion Regarding Need of The Narragansett Electric Co. d/b/a National Grid to Construct and Alter Certain Transmission Components in the Towns of Portsmouth and Middletown (Aquidneck Island Reliability Project) on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4614

(WT) (HE)

(WT)

ACTIVE AND HISTORIC REGULATORY CASES BY GREGORY L. BOOTH, PE, PLS

Rhode Island Public Utilities Commission

2016

National Grid Electric Infrastructure, Safety, and Reliability Plan FY 2018 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4682

2017

National Grid Electric Infrastructure, Safety, and Reliability Plan FY 2019 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4783

2017

Narragansett Electric Company d/b/a National Grid's October 2017 Storm Response on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. D-17-45

2018

The Narragansett Electric Company d/b/a National Grid's Electric Proposed Power Sector Transformation (PST) Vision and Implementation Plan on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4780

2018

National Grid Electric Infrastructure, Safety and Reliability Plan FY 2020 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4915

2018

RIDPUC Streetlight Pilot Metering Program Docket 4513 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4513

2019

Adoption of Performance Incentives for The Narragansett Electric Company d/b/a National Grid Pursuant to R.I. Gen. Laws Section 39-1-27.7.1(e)(3) to Apply to the Electric Infrastructure, Safety, and Reliability Plans on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4857

Rhode Island Public Utilities Commission

2019

Capital Efficiency Mechanism - Adoption of Performance Incentives for the Narragansett Electric Company d/b/a National Grid Pursuant to RI Gen. Laws Section 39-1-27.7.1€(3) to Apply to the Electric Infrastructure, Safety, and Reliability Plans on behalf Rhode Island Division of Public Utilities and Carriers

Docket No. 4857

2019

RIDPUC Block Island Transmission Deficiencies Evaluation on behalf of Rhode Island Division of Public Utilities and Carriers

2019

Guidance Document Regarding Priniciples to Guide the Development and Review of Performance Incentive Mechanisms on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4943

2020

Rhode Island Division of Public Utilities - Least Cost Procurement Standards

Docket No. 5015

2020

National Grid Electric Infrastructure, Safety and Reliability Plan FY 2021 on behalf of Rhode Island Division of Public Utilities and Carriers

Docket No. 4995

Partial List of Historical Utility Clients

Client Name	City	<u>State</u>
4 CES/CEEC	Seymour Johnson AFB	NC
A&N Electric Cooperative	Parksley	VA
ACRES International Corporation	Grand Forks	ND
Adams Electric Cooperative	Gettysburg	РА
Adams Rural Electric Cooperative	West Union	OH
AFL Telecommunications		NC
Alabama Power Company	Birmingham	AL
Alachua, City of	Alachua	FL
Alaska 220 Communications	Anchorage	AK
Albemarle Electric Membership Corporation	Hertford	NC
Allegheny Electric Cooperative	Harrisburg	РА
Alleghany Power Energy	Greensburg	РА
Altahama Electric Membership Corporation	Lyons	GA
Alternative Energy Corporation	ŔŦ₽	NC
American Public Power Association	Washington	DC
American Telecommunications	Raleigh	NC
Apex Communications, LLC	Wynne	AR
Apex, Town of	Apex	NC
Arkansas Electric Cooperative, Inc.	Little Rock	AR
Arlington County		VA
AT&T	Durham	NC
Ayden, Town of	Ayden	NC
BARC Electric Cooperative	Millboro	VA
Bath Electric, Gas & Water	Bath	NC
Bedford, City of	Bedford	VA
Belhaven, Town of	Belhaven	NC
Bellsouth Mobility DCS	Raleigh	NC
Bennettsville, City of	Bennettsville	SC
Benson, Town of	Benson	NC
Black Creek, Town of	Black Creek	NC
Blountstown, City of	Blountstown	FL
Blue Ridge Electric Cooperative	Pickens	SC
Blue Ridge Electric Membership Corporation	Lenoir	NC
Boulder, City of	Boulder	CO
Brazos Electric Power Cooperative		ΤХ
Brunswick Electric Membership Corporation	Shallotte	NC
Burlington-Northern Railroad	St. Paul	MN
Bushnell, City of	Bushnell	FL
Cape Hatteras Electric Membership Corporation	Buxton	NC
Carolina Power & Light	Raleigh	NC
Carroll Electric Cooperative	Carrollton	OH
Carteret Craven Electric Cooperative	Morehead City	NC
Central Electric Cooperative, Inc.	Parker	РА

Client Name	<u>City</u>	<u>State</u>
Central Electric Membership Corporation	Sanford	NC
Central Georgia Electric Membership Corporation	Jackson	GA
Central Virginia Electric Cooperative	Lovingston	VA
Charter Communications	Holly Ridge	NC
Chattahoochee, City of	Chattahoochee	FL
Choptank Electric Cooperative	Denton	MD
Citizens Electric Corporation	Perryville	MO
Claverack Rural Electric Cooperative	Wysox	PA
Clayton, Town of	Clayton	NC
Clemson University	Clemson	SC
Clewiston, City of	Clewiston	FL
Cobb Electric Membership Corporation	Marietta	GA
Coconut Creek, City of	Coconut Creek	FL
Columbus Water Works	Columbus	GA
Community Electric Cooperative	Windsor	VA
Cooperative Energy	Hattiesburg	MS
Cornelius & Huntersville, NC	Huntersville	NC
Continental Cooperative Services	Harrisburg	PA
Craig-Botetourt Electric Cooperative	New Castle	VA
CP&L Area Cooperatives		NC
Crescent Electric Membership Corporation	Statesville	NC
C&T Enterprises		PA
Dalton Utilities	Dalton	GA
Danvers, Town of	Danvers	MA
Danville, City of	Danville	VA
Davidson Water Cooperative	Welcome	NC
Delaware County Electric Cooperative	Delhi	NY
Delaware Division of Parks & Recreation	Dover	DE
Delaware Electric Cooperative	Greenwood	DE
Depcom Power		
Dover, City of	Dover	DE
Drexel, Town of	Drexel	NC
Duke Energy Progress	Raleigh	NC
East Carolina University	Greenville	NC
East Kentucky Power Cooperative	Winchester	KY
Easton Utilities Commission	Easton	MD
Eden, City of	Eden	NC
Edenton, Town of	Edenton	NC
Edgecombe Martin County Electric Membership Corp.	Tarboro	NC
Electric Cooperatives of SC	Cayce	SC
ElectriCities of NC, Inc.	Raleigh	NC
Elizabeth City	Elizabeth City	NC
EnergyUnited	Statesville	NC
Enfield, Town of	Enfield	NC
Enron Wind Corporation	Tehachapi	CA
Farmville Water and Wastewater Systems	Farmville	NC

Client Name	City	<u>State</u>
Farmville, Town of	Farmville	NC
Flint Energies	Warner Robins	GA
Florida Keys Electric Cooperative Association, Inc.	Tavernier	FL
Florida Municipal Electric Association	Tallahassee	FL
Florida Municipal Power Agency	Orlando	FL
Fort-Bragg – USA	Fort Bragg	NC
Fort Lauderdale, City of	Fort Lauderdale	FL
Fort Meade, City of	Fort Meade	FL
Fort Pierce Utilities	Fort Pierce	FL
Four County Electric Membership Corporation	Burgaw	NC
Fox Islands Electric Cooperative	Vinalhaven	ME
French Broad Electric Membership Corporation	Marshall	NC
Fremont, Town of	Fremont	NC
Georgia Consumers Utility Council	Atlanta	GA
Georgia Power	Union City	GA
Gillette, City of	Gillette	WY
Great River Energy	Maple Grove	MN
Green Cove Springs, City of	Green Cove Springs	FL
Greenville Utilities	Greenville	NC
Greer, SC Comm. Of Public Works	Greer	SC
Greystone Power Corporation	Douglasville	GA
Groton Utilities	Groton	СТ
Guernsey-Muskingum Electric Cooperative	New Concord	NH
Habersham Electric Membership Corporation	Clarksville	GA
Halifax Electric Membership Corporation	Enfield	NC
Hamilton, Town of	Hamilton	NC
Hancock-Wood Electric Cooperative	N. Baltimore	OH
Harkers Island Electric Membership Corporation	Harkers Island	NC
Harnett County Wastewater	Lillington	NC
Harron Communications	Frazer	PA
Hart Electric Membership Corporation	Hartwell	GA
Havana, Town of	Havana	FL
Haynes Electric Utility Company	Asheville	NC
Haywood Electric Membership Corporation	Waynesville	NC
Hertford, Town of	Hertford	NC
High Point, City of	High Point	NC
Hobgood, Town of	Hobgood	NC
Hookerton, Town of	Hookerton	NC
Jacksonville Beach, City of	Jacksonville Beach	FL
Jefferson Energy Cooperative	Wrens	GA
Joe Wheeler Electric Membership Corporation	Trinity	AL
Jones-Onslow Electric Membership Corporation	Jacksonville	NC
Jupiter Inlet Colony	Jupiter Inlet	FL
Kenergy	Owensboro	KY
Keys Energy Services	Key West	FL
Kinston, City of	Kinston	NC

Client Name	<u>City</u>	<u>State</u>
LaGrange, Town of	LaGrange	NC
Laurinburg, City of	Laurinburg	NC
Lee County Electric Cooperative	0	FL
Lenior, City of	Lenoir	NC
Lewes, DE Board of Public Works	Lewes	DE
Lewis County Rural Electric Cooperative	Lewiston	MO
Lexington Utilities	Lexington	NC
Lexington, City of	Lexington	NC
Lookout Windpower, LLC	0	РА
Louisburg, Town of	Louisburg	NC
Lucama, City of	Lucama	NC
Lumbee River MEC	Red Springs	NC
Lumberton, City of	Lumberton	NC
Lynches River Electric Cooperative	Pageland	SC
Madison, Borough of	Madison	NJ
Maine Public Service Company	Presque Isle	м́Е
Manassas, City of	Manassas	VA
Martinsville, City of	Martinsville	VA
Mebane, City of	Mebane	NC
Mecklenburg Electric Cooperative	Chase City	VA
Middle Georgia Electric Membership Corporation	Rochelle	GA
Milford, City of	Milford	DE
Mississippi Power	Gulfport	MS
Mitchell Electric Membership Corporation	Camilla	GA
MN Planning/Environmental	St. Paul	MN
Monroe, City of	Monroe	NC
Morganton, City of	Morganton	NC
Municipal Gas Group	Wilson	NC
NASA	Wallops Island	VA
National Rural Telecom Cooperative	Herndon	VA
New Bern, City of	New Bern	NC
Newberry, City of	Newberry	NC
New Enterprise Rural Electric Cooperative	New Enterprise	РА
New Hampshire Electric Cooperative	Plymouth	NH
North Carolina AT&T State University	Greensboro	NC
North Carolina Association of Electric Cooperatives	Raleigh	NC
North Carolina Eastern Municipal Power Agency	Raleigh	NC
North Carolina Electric Membership Corporation	Raleigh	NC
North Carolina League of Municipalities	Raleigh	NC
North Carolina Rural Telecommunications Cooperative	Enfield	NC
North Carolina State University	Raleigh	NC
North Georgia Electric Membership Corporation	Dalton	GA
North Miami, City of	Miami	FL
Northern Neck Electric Cooperative	Warsaw	VA
Northern Virginia Electric Cooperative	Gainesville	VA
Northfield Electric Department	Northfield	VT

Client Name	City	<u>State</u>
Northwest Public Power Association	Vancouver	WA
Northwestern Rural Electric Cooperative Association	Cambridge Springs	РА
NRECA	Arlington	VA
Ohio Rural Electric Cooperative, Inc.	Columbus	OH
Old Dominion Electric Cooperative	Glen Allen	VA
Origis Energy		FL
Ostego Electric Cooperative	Hartwick	NY
Palm Beach, Town of	Palm Beach	FL
Panama City Beach	Panama City	FL
Peace River Electric Cooperative	Wauchula	FL
Pee Dee Electric Cooperative	Darlington	SC
Pee Dee Electric Membership Corporation	Wadesboro	NC
Pennsylvania Rural Electric Association	Harrisburg	РА
Perkasie, Borough of	Perkasie	РА
Piedmont Electric Membership Corporation	Hillsborough	NC
Pineville, Town of	Pineville	NC
Pitt & Greene Electric Membership Corporation	Farmville	NC
Pompano Beach, City of	Pompano Beach	FL
Pope Air Force Base	Pope AFB	NC
Potomac Electric Power Company	Washington	DC
Prince George Electric Cooperative	Waverly	VA
PGEC Enterprise, LLC	Waverly	VA
Progress Energy	Raleigh	NC
PWC of the City of Fayetteville	Fayetteville	NC
Quincy, City of	Quincy	FL
Randolph Electric Membership Corporation	Asheboro	NC
Rappahannock Electric Cooperative	Fredericksburg	VA
REA Energy Cooperative (SW Central)	Indiana	PA
Red Springs, Town of	Red Springs	NC
Roanoke Electric Cooperative	Rich Square	NC
Robersonville, Town of	Robersonville	NC
Rockingham County	Rockingham	NC
Rocky Mount, City of	Rocky Mount	NC
Roxboro, City of	Roxboro	NC
Rutherford Electric Membership Corporation	Forest City	NC
Sacramento Municipal Utility District	Sacramento	CA
Salem, City of	Salem	VA
Sandhills Utility Services, LLC	Red Springs	NC
Santee Cooper	Myrtle Beach	SC
Satilla Rural Electric Membership Corporation	Alma	GA
Sawnee Electric Membership Corporation	Cumming	GA
Scotland Neck, Town of	Scotland Neck	NC
Seaford, Town of	Seaford	DE
SECO Energy	Sumterville	FL
Selma, Town of	Selma	NC
Seneca, City of	Seneca	SC

<u>Client Name</u>	<u>City</u>	<u>State</u>
Seymour-Johnson Air Force Base	Goldsboro	NC
Sharpsburg, Town of	Sharpsburg	NC
Shenandoah Valley Electric Cooperative	Mt. Crawford	VA
SMECO	Hughesville	MD
Smithfield, Town of	Smithfield	NC
Snapping Shoals Electric Membership Corporation	Covington	GA
Somerset Rural Electric Cooperative	Somerset	PA
South Daytona, City of	South Daytona	FL
South Mississippi Electric Power Association	Hattiesburg	MS
South River Electric Membership Corporation	Dunn	NC
Southern Company Services	Atlanta	GA
Southern Maryland Electric Cooperative		MD
Southport, City of	Southport	NC
Southside Electric Cooperative	Crewe	VA
South Carolina Association of Municipal Power Systems	Columbia	SC
Stantonsburg, Town of	Stantonsburg	NC
Starke, City of	Starke	FL
Strata Solar, LLC		
Statesville, City of	Statesville	NC
Steuben Rural Electric Cooperative	Bath	NY
STS Hydro Power Limited	Northbrook	IL
Sullivan County Rural Electric Cooperative	Forksville	РА
Sulphur Springs Valley Electric Membership Corp.	Willcox	AZ
Sumter Electric Cooperative		FL
Surry-Yadkin Electric Membership Corporation	Dobson	NC
Sussex Rural Electric Cooperative	Sussex	NJ
Talquin Electric Cooperative, Inc.	Quincy	$\tilde{\rm FL}$
Tarboro, Town of	Tarboro	NC
Tarboro Water and Wastewater Systems	Tarboro	NC
Tideland Electric Membership Corporation	Pantego	NC
Time Warner Cable	Newport	NC
Tri-County Electric Membership Corporation	Dudley	NC
Tri-County Electric Membership Corporation	Lafayette	TN
Tri-County Rural Electric Cooperative	Mansfield	РА
TVPPA	Chattanooga	TN
UNC – Asheville	Asheville	NC
UNC – Chapel Hill	Chapel Hill	NC
UNC – Charlotte	Charlotte	NC
UNC – Greensboro	Greensboro	NC
Union Electric Membership Corporation	Monroe	NC
Union Power Cooperative	Monroe	NC
United Electric Cooperative	DuBois	PA
US Generating Company	Bethesda	MD
VA, MD & DE Association of Electric Cooperatives	Glen Allen	VA
Valley Rural Electric Cooperative	Huntington	PA
Vanceburg, City of	Vanceburg	KY

Client Name	<u>City</u>	<u>State</u>
Vero Beach, City of	Vero Beach	FL
Wake County Parks & Recreation	Raleigh	NC
Wake Electric Membership Corporation	Wake Forest	NC
Wake Forest, Town of	Wake Forest	NC
Walstonburg, Town of	Walstonburg	NC
Warren Electric Membership Corporation	Youngsville	РА
Washington Electric Cooperative	E. Montpelier	VT
Washington Electric Membership Corporation	Sandersville	GA
Washington, City of	Washington	NC
Wauchula, City of	Wauchula	FL
Waynesville, Town of	Waynesville	NC
Wellsboro Electric Company	Wellsboro	PA
West Virginia Power Company	Lewisburg	WV
Western Carolina University	Cullowhee	NC
Western North Carolina School for the Deaf	Morganton	NC
Wilmington, City of	Wilmington	NC
Wilson, City of	Wilson	NC
Windsor, Town of	Windsor	NC
Winter Park, City of	Winter Park	FL
Winterville, Town of	Winterville	NC

EXHIBIT B

Exhibit B Page 1

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
014-BS	Supply Chain Master Data Management (MDM)	Procure to Pay	Procure to Pay	24 months	60 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
039-CS	Call Center Operations	Customer Service	Customer Delivery	24 months	60 months	The National Grid main facilities in Northborough, Mass will not be transferred and PPL must construct a major backup facility and transfer all communications and other infrastructure from the system.
059-HSE	Site Investigation and Remediation (SIR)	HSE	HSE	24 months	48 months	
061-HSE	Spill control/ response	HSE	HSE	24 months	24 months	
065-REG	Regulatory support - General	Regulatory support	Regulatory support	12 months	36 months	The timing alone of each filing after the date of closing would require more than 12 months
066-REG	Regulatory support - Reporting and filings -	Regulatory support	Regulatory support	12 months	48 months	The complexity and utilization of significant staff from the service company make it imperative to get this right and 12 months is not adequate. Additionally, the timing after closing would not necessarily even allow for assistance by National Grid on one filing, and that is not adequate.

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
067-REG	Regulatory support - Reporting and filing -	Regulatory support	Regulatory support	12 months	48 months	The complexity and utilization of significant staff from the service company make it imperative to get this right and 12 months is not adequate. Additionally, the timing after closing would not necessarily even allow for assistance by National Grid on one filing, and that is not adequate.
068-SC	Strategic Procurement	Procurement	Procurement	24 Months	60 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
069-SC	Inventory management	Inventory Mgmt./Warehouse Mgmt./Fleet	Inventory Mgmt./ Warehouse Mgmt./Fleet	24 Months	60 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
070A-EO	Asset management and planning	Electricity Operations (Distribution & Transmission)	Asset & Engineering	12 months	48 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
070B-EO	Transmission & Sub- Transmission Asset	Electricity Operations (Distribution & Transmission)	Asset & Engineering	6 Months	48 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
071-EO	Maintenance strategy engineering and technical	Electricity Operations (Distribution & Transmission)	Asset & Engineering	12 months	48 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together. Additionally, National Grid is continually transitioning its Damage & Failure and I&M programs and this work has yet to be fully transitioned by National Grid even after multiple years.
072-EO	Electric engineering and design	Electricity Operations (Distribution & Transmission)	Construction	12 months	48 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
075A-EO	Investment management and workplan	Electricity Operations (Distribution & Transmission)	Asset & Engineering	12 months	60 months	As discussed in Booth Testimony, these functions will take years to transition
075B-EO	Resource planning (across T&D)	Electricity Operations (Distribution & Transmission)	Resource planning	24 months	60 months	As discussed in Booth Testimony, these functions will take years to transition

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
076-EO	Planned major maintenance & capital	Electricity Operations (Distribution & Transmission)	Construction	24 months	60 months	As discussed in Booth Testimony, these functions will take years to transition
077-EO	Electric operations (Transmission and	Electricity Operations (Distribution & Transmission)	Others	24 months	60 months	
078-EO	Electric network control	Electricity Operations (Distribution & Transmission)	Others	24 months	48 months	This function cannot be fully transitioned until all control centers and communication networks and all IT is fully transitioned which will not occur in 24 months.
082A-EO	Emergency Planning & Operations	Electricity Operations (Distribution & Transmission)	Storm Response	6 months	36 months	A new Emergency Response Plan will need to be written and all regulatory reviews and acceptance must be completed. The full integration of a stand alone PPL-RI cannot be integrated with all the other PPL companies and all the new partners under PPL and not National Grid in less than 36 months.
084-EO	Shared Telecom Network (STN)	Electricity Operations (Distribution & Transmission)	Others	24 months	36 months	It is very unlikely the telecommunication studies can be completed in less than 12 months. The system design cannot even begin until the studies are complete and then a major migration of communications from National Grid to PPL system must be done in a slow coordinated manner which avoids communication interruptions. This will means years of duplicated systems.

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
101B-EP	Electric load forecasting	Energy Procurement	Energy Procurement	24 months	?	
106-EP	Electric procurement	Energy Procurement	Energy Procurement	24 months	60 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
109-IT	Data center services	IT	IT	24 months	48 months	This function will need to be integrated with all operation and call centers being fully complete and operational which will not occur in 24 months.
114-IT	IT Energy Management System (EMS) -	IT	IT	24 months	48 months	This function will need to be integrated with all operation and call centers being fully complete and operational which will not occur in 24 months.
119-HR	Training (Learning and Development)	HR & Employee Relations	Talent Mgmt & Learning	24 months	60 months	Based on major transition to holistic construction and materials processes
124-FAC	Masachusetts and New York offices	Facilities & Property Services	Facilities & Property Services	12 months	?	
125-FAC	Massachusetts operations facilities	Facilities & Property Services	Facilities & Property Services	24 months	?	
126-FAC	Massachusetts warehouse facilities	Facilities & Property Services	Facilities & Property Services	12 months	48 months	Many items will not be fully transferred until all standards are consolidated
132-FAC	Northboro contact center	Facilities & Property Services	Facilities & Property Services	24 months	48 months	
133-FAC	Training facilities	Facilities & Property Services	Facilities & Property Services	24 months	36 months	Major effort to transition to PPL standards

TSA Baseline 16 August 2021						
TSA ID	TSA Schedule	Workstream responsible	Sub- workstream responsible	Duration	Most Likely Timeline	Comments
135-FAC	Capital Project support	Facilities & Property Services	Facilities & Property Services	18 months	60 months	PPL does not have the same materials and construction standards as National Grid and will be operating multiple systems with many differences for years before they are migrated together.
136-REG	Regulatory Support – New England Power	Regulatory support	Regulatory support	12 months	24 months	12 months does allow adequate time for a full cycle of regulatory filings.
137-REG	Regulatory Support – Stakeholder Group	Regulatory support	Regulatory support	6 months	24 months	It has taken National Grid multiple years to reach its current role and there is much more to be accomplished and it cannot be transitioned before even a single annual filing is complete.
139-EO	Distribution Pole Attachments Program	Electricity Operations (Distribution & Transmission)	Distribution	6 Months	24 months	National Grid has had a new Verizon contract for several years and it is still not fully functional after more than 2 years and took many years to even negotiate and pricing has not even been updated yet.
140-EO	Radio and Microwave Systems	Electricity Operations (Distribution & Transmission)	Radio and Microwave	24 Months	?	
141-EO	Electric Distribution Control Centre	Electricity Operations (Distribution & Transmission)	Distribution	24 Months	48 months	The infrastructure, backup facilities and communication networks to be transitioned. Simply cannot be done in 24 months
142-EO	Electric Distrbituion Control Centre Backup	Electricity Operations (Distribution & Transmission)	Distribution	24 Months	48 months	The infrastructure, backup facilities and communication networks to be transitioned. Simply cannot be done in 24 months

PUBLIC

EXHIBIT C

PUBLIC

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Seventh Set of Data Requests Issued on August 31, 2021

National Grid USA and The Narragansett Electric Company <u>Division 7-36</u>

Request:

On page 14 of Mr. Sobolewski's testimony, he indicates National Grid will work very closely with PPL in the short and long-term to transition support. What is the anticipated duration for the short-term support and the duration for the long-term support? Provide a detailed list of each support function which will be provided during the short-term and each support function provided during the long-term.

Response:

As explained in National Grid USA and The Narragansett Electric Company's ("Narragansett") responses to Data Requests Division 1-28, Division 2-17, Division 2-18, and Division 2-22, National Grid USA and PPL Corporation ("PPL") continue to run through a Day 1 planning process to identify functional areas that can be transferred safely and efficiently on Day 1 and areas that will require a more gradual transition supported by the Transition Services Agreement ("TSA"). The planning process includes identifying employees who will be conveying to PPL, documenting processes/activities that National Grid USA will be performing on behalf of PPL through the TSA and as hand-offs occur between the two companies.

Table 1, below, contains a detailed list of functional areas that can safely and efficiently be transferred to PPL in the short-term and long-term. In particular, Table 1 provides the support functions and activities that will transition to PPL in the short-term (i.e., activities transitioning to PPL on Day 1) and long-term (i.e., areas with TSA needs). National Grid USA and PPL are still working on the specific activities that will be included on Day 1 and under the TSA, so the anticipated activities listed in the table are subject to change.

As of August 16, 2021	Short-term: Activities transitioning to PPL on Day One	Long-term: Areas with TSA Needs
Customer	 Customer Connections Customer Programs (Energy Efficiency, Low Income) Marketing & Growth 	 Contact Center Billing & Collections Customer Delivery Meter Data Services
Gas	 Customer Meter Services Meter Shop Field Operations Leak Survey & Damage Prevention Construction & Inspection Project & Construction Management 	Control CenterGas Procurement

Table 1

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Seventh Set of Data Requests

Issued on August 31, 2021

	 Work & Resource Planning Engineering & Asset Management LNG Operations Instrumentation & Regulation Pipeline Safety & Compliance 	
Electric	 Field Engineering Protection, Control, Telecom, Meter Engineering & Operations Distribution Design Asset Management Distribution Control Center Regional Field Operations Customer Meter Services Project & Construction Management Work & Resource Planning 	 Electricity Procurement Transmission Control Center T-line and substation design & engineering Transmission interconnections
Reg & Gov Affairs	 Regulatory Affairs Regulatory Strategy Accountability for all Regulatory Filing Requirements 	• TSA will provide consultant services on specific list of quarterly, annual, monthly filings as agreed with PPL
Ops Support (incl. Bus. Services)	 Fleet Environmental Safety 	 Payroll & Timekeeping P2P Facilities & property services Inventory management & warehouse management Security Technical Training
HR	 Recruitment Talent management Labor relations Performance mgmt. 	 Employee services HRIS Benefits & retirement administration
Legal & Compliance	All activities transitioning to PPL	• None
Finance & Accounting (inc Tax)	• Overall financial planning including debt, cash management, tax filings, enterprise risk management, insurance, audit and internal controls	 Balance sheet account reconciliations, mid/back-office for energy procurement Transactional activities in support of FP&A, property tax, accounting & financial reporting, tax consulting
IT	• PPL to provision access to RI employees to legacy PPL systems. RI employees to retain access to NG systems necessary for Day 1 operations	• All IT activities to be fully supported. App support for systems expected to drop-off with corresponding reductions in business TSA

Please see Attachment NG-DIV 7-36-1 for list of updated TSAs by functions and duration (long-term support). Attachment NG-DIV 7-36-2-1 through Attachment NG-DIV 7-36-2-15 contain

Prepared by or under the supervision of: Duncan Willey

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Seventh Set of Data Requests Issued on August 31, 2021

the detailed draft indicative TSA schedules by function as of August 16, 2021 and the anticipated duration of long-term support.

- List of TSA schedules Attachment NG-DIV 7-36-1.
- Billing & Collections Attachment NG-DIV 7-36-2-1
- Customer Services Attachment NG-DIV 7-36-2-2
- Energy Procurement Attachment NG-DIV 7-36-2-3
- Gas Operations & Engineering Attachment NG-DIV 7-36-2-4
- Electric Operations & Engineering Attachment NG-DIV 7-36-2-5
- Business Services: Balance Sheet Account Reconciliations Attachment NG-DIV 7-36-2-6
- Business Services: P2P Attachment NG-DIV 7-36-2-7
- Business Services: Employee Services Attachment NG-DIV 7-36-2-8
- Facilities Attachment NG-DIV 7-36-2-9
- Finance & Accounting Attachment NG-DIV 7-36-2-10
- Human Resources Attachment NG-DIV 7-36-2-11
- Health & Safety, Monitoring & Compliance Attachment NG-DIV 7-36-2-12
- Regulatory Attachment NG-DIV 7-36-2-13
- Supply Chain Management Attachment NG-DIV 7-36-2-14
- IT Attachment NG-DIV 7-26-2-15

The work associated with the Day 1 planning and TSAs are ongoing and currently undergoing further review, refinement, and finalization. Therefore, the activities transitioning to PPL on Day 1 and TSA schedules are subject to change. National Grid USA and Narragansett expect to continue to update the TSA schedules until the closing of PPL Rhode Island Holdings, LLC's acquisition of Narragansett from National Grid USA and will supplement this response accordingly.

This response supplements National Grid USA and Narragansett's responses to Data Request Division 1-28, Division 2-17, Division 2-18, and Division 2-22.

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Docket No. D-21-09 Attachment NG-DIV 7-36-1 Page 1 of 2

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Dief Second Agencies (may 2000) Second Second Control Second Biege (Carbons) Biege (Carbon	F	009-BS	Complex Billing Account Management	Business Services	Customer Service	Billings & Collections	24 months
Control Description Description <thdescription< th=""> <thdescription< th=""> <th< td=""><th>L</th><td>011-BS</td><td>Service Applications Manger (SAM)</td><td>Business Services</td><td>Customer Service</td><td>Billings & Collections</td><td>24 months</td></th<></thdescription<></thdescription<>	L	011-BS	Service Applications Manger (SAM)	Business Services	Customer Service	Billings & Collections	24 months
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CHARGE Long to Program Barries (Program Program	F		Supply Chain Master Data Management (MDM)		Procure to Pay	Procure to Pay	24 months
1955 Prime & Prij Aleen Prime & Prime & Prij Aleen Prime & Prime		016-BS	Transactional Procurement	Business Services	Procure to Pay	Procure to Pay	24 months
C600 Deal Mary of Direct Model Reset Lateral Source Deal Source Process Part ProcesPart ProcesPart Proce	E	018-BS	Procure to Pay (P2P) system	Business Services	Procure to Pay	Procure to Pay	24 months
9000 Harm Research American Extens Research Hill Arging Research Hill Control Extension <	Ŀ	020-BS	Capital Delivery and Shop on behalf of / Receive	Business Services	Procure to Pay	Procure to Pay	24 months
0000					HR & Employee Relations		24 months
Bib B HES Technology System Bud co. Social All study Robins All stud	F						
Geola Jacobs Instructure Jacobs Instructure A constructure	F	025-BS	HRIS - Technology Support Services	Business Services	HR & Employee Relations	HR Operations	24 months
0956 House and migrage Busines (account) His & Subject Lith Construct State of the subject of		027-BS	Benefits administation	Business Services	HR & Employee Relations	HR Operations	24 months
BBB The Science Fit France Fit France <th>E</th> <td>029-BS</td> <td>Pension administration</td> <td>Business Services</td> <td>HR & Employee Relations</td> <td>HR Operations</td> <td>24 months</td>	E	029-BS	Pension administration	Business Services	HR & Employee Relations	HR Operations	24 months
Bible Ward for far (h 2) growsarg Basess Ferrar PA A Torpus Relation III Operation Pa output Bible Counter Stand Stand Counter Stand Stand Counter Stand Stand A stand Stand Bible Counter Stand Stand Counter Stand Stand Counter Stand Stand A stand Stand Bible Counter Stand Stand Counter Stand Stand Counter Stand Stand A stand Sta	L		Time Governance				
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001.0 Gel Goor Operation London Doriso Calabor Server Dealer Collegy All operations 001.7 Long Dorison Doriso Filling A Dorison Dorison Filling A Dorison Dorison Dorison Dorison Filling A Dorison Doriso	F	035-BS	Balance Sheet Account Reconcilications	Business Services	Finance & Accounting	Finance & Accounting	12 months
0.05.0 Read & Materian con Januard and any	Ļ	039-CS	Call Center Operations	Customer Service	Customer Service	Customer Delivery	24 months
Bit Foll Mode Vince sport segments Fasce Fasce & Accounts Flance	04	045-FAC	Repair & Maintenance, internally managed &	Facilities & Property Services	Facilities & Property Services	Facilities & Property Services	12 months
Bit-SP React-Res age (non-serving increasing) France According France According According France According Accordin	E	051a-FIN	Middle Office support for gas procurement	Finance	Finance & Accounting	Finance & Accounting	24 months
Biol Processor France Accounting France Accounting To contrage Biol File Instruction processor Trace To a 3 across Biol File Instruction processor Trace To a 3 across Biol File Instruction processor Trace 1 acrossor 3 across Biol File Instruction processor Trace 1 acrossor 3 acrossor Biol File Instruction processor Trace 1 acrossor 3 acrossor Biol File Instruction processor File 1 acrossor 3 acrossor Biol File Instruction processor File 1 acrossor 3 acrossor Biol File File 1 acrossor 1 acrossor 3 acrossor Biol File File 1 acrossor 1 acrossor 3 acrossor Biol File File 1 acrossor 1 acrossor 3 acrossor Biol File File 1 acrossor 1 acrossor 3 acrossor Biol File File 1 acrossor 1 acrossor 3 acrossor <t< td=""><th>F</th><td>051c-FIN</td><td>Back-Office support for energy procurement</td><td></td><td></td><td></td><td></td></t<>	F	051c-FIN	Back-Office support for energy procurement				
BARN Program Process Tax For 2 State For 2 State For 2 State 2 3 2 3 2 3	F	052-FIN	Claims handling/ investigation	Finance	Finance & Accounting	Finance & Accounting	12 months
081-05 First Soldy, agout 8. Envormers. Compliance, Training & S. 1162	F	054-FIN	Property tax services	Finance	Tax	Tax	24 months
081-05 Environmental Field Sagott Electronic Company 1162<	E	056-HSE	Field Safety support	cl. Environment, Compliance, Training & S	HSE	HSE	24 months
Bits Put/Entremended Frains Sector L Environment Compliants Training & 8 HSE	L	060-HSE	Environmental Field Support	cl. Environment, Compliance, Training & Se	HSE	HSE	24 months
B64.182 Ste scorty serves Environmet Company B64.863 H82 H82 H82 Protection 067.863 Regulatory support Regulatory support <th></th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
056.8CS Regulator support Reg	-						
007.45C3 Regulatory support Regulatory support Regulatory support Regulatory support Q1 months 0.005.60 Setup Constraint Setup Constraint Setup Constraint 24 Months 0.005.60 Termination A Support and jutationing termination. Netup Monotantiant Netup Monotantiant Netup Monotantiant 0.005.60 Termination A Support And Support Executivy operations Restrictly Question Netup Monotantiant 0.005.60 Termination A Support Executivy Operations Netup Monotantiant Netup Monotantiant 0.005.60 Termination A Support Executivy Operations Netup Monotantiant Netup Monotantiant 0.005.61 Termination Setup Monotantiant Termination Netup Monotantiant Netup Monotantiant 0.005.62 Termination A Support Executivy Operations Executivy Operations Netup Monotantiant Netup Monotantiantiant Netup Monotantiant	F		Regulatory support - General	Regulatory support	Regulatory support	Regulatory support	12 months
06562 Intervity margement Supply Chain management Newtory Mpmt / Ward/Soue Mpmt / Feet Newtory Mpmt / Ward/Soue Mpmt / Feet 24 Norther 0746-0 Alean margement of advance margement		067-REG	Regulatory support - Reporting & filing -	Regulatory support	Regulatory support	Regulatory support	12 months
078E-00 Traumission Asis-Traumission Asist Electricity Querations Electricity Querations Electricity Querations Asset & Exploreiry (E) Annohum 071-E0 Methannes fatting: exploreiring at Behricity Querations Electricity Querations Others 34 morths 0746:00 Electricity Querations Electricity Querations Electricity Querations Electricity Querations Others 34 morths 0746:00 Electricity Querations Electricity Querations Electricity Querations Electricity Que	a	069-SC	Inventory management	Supply Chain management	Inventory Mgmt./Warehouse Mgmt./Fleet	Inventory Mgmt./Warehouse Mgmt./Fleet	24 Months
1725.0 Electricity operations Electricity Operations Construction 12 months 1728.6.0 Electricity Operations Electricity Operations Electricity Operations Constructions 24 months 1728.6.0 Insertiment caracity montains Electricity Operations	L	070B-EO	Transmission & Sub-Transmission Asset	Electricity operations	Electricity Operations (Distribution & Transmission)	Asset & Engineering	6 Months
0748-60 Electricity Operations Electricity Operations Detecting Operations Others 24 months 0746-60 Newtone planning (across Tab) Electricity Operations Electricity Operations Newtone planning 23 months 0746-60 Reducts planning (across Tab) Electricity Operations Electricity Operations Newtone planning 24 months 0746-60 Electricity Operations Electricity Operations Electricity Operations Newtone planning 24 months 0746-60 Electricity Operations Electricity Operations Electricity Operations Others 24 months 0746-60 Newtone across Electricity Operations Electricity Operations Others 24 months 0746-60 Newtone across Electricity Operations Electricity Operations Stomm Response 6 months 0746-60 Newton across newtone stomations Electricity Operations Electricity Operations Stomm Response 6 months 0746-60 Resource matagement at works (Strick) Electricity Operations Certains (Strick) Operations Newtone stomations Newtone stomations Newtone stomati	-						
0758-60 Investment management and exclpan Exclustly operations Exclustly operations Asset & Empireering 12 months 0758-60 Resource planning (arcos 14.0) Exclustly operations Exclu	F				Electricity Operations (Distribution & Transmission) Electricity Operations (Distribution & Transmission)		
074-E0 Pennom major maintenance 3 capital Electricity Operations Electricity Operations Otheran 24 months 074-E0 Electricity Operations Electricity Operations Electricity Operations Otheran 24 months 074-E0 Electricity Operations Electricity Operations Distribution 3 Tranmission) Otheran 24 months 074-E0 Electricity Operations Electricity Operations Distribution 3 Tranmission) Otheran 67 074-E0 NBEG CMPCC - reliability Operations Electricity Operations	F	075A-EO	Investment management and workplan	Electricity operations	Electricity Operations (Distribution & Transmission)	Asset & Engineering	12 months
876-50 Electricity Operations Electricity Operations Detrains (Software) Others 24 months 078-50 Maler data services Electricity Operations Electricity Operations Detrains(Software) Others 24 months 078-50 Maler data services Electricity Operations Electricity Operations Detrains(Software) Others 12 months 078-50 Mater data services Electricity Operations Electricity Operations Districity Operations Distric	F	076-EO	Planned major maintenance & capital	Electricity operations	Electricity Operations (Distribution & Transmission)	Construction	24 months
B9:E0 Metric data services Electricity operations Electricity Operations Others 12 months 081:E0 NERCO MPCC reliability comparisone Electricity Operations Biotholon & Transmission) Others 6 months 082:E0 Emergency Planning & Operations Electricity Operations District Start Resported 6 months 082:E0 Swart Electricity Operations District A months 24 months 087:00 Resource management, investment planning & Gas operations Cast ocid cleres and alignetity 24 months 1018:E9 Gas oadd forecasting Energy Procurement Energy Procurement Energy Procurement 24 months 1018:E9 East of a forecasting Energy Procurement Energy Procurement 24 months 1018:E9 Energy fracurement Energy Procurement Energy Procurement 24 months 1018:E9 Energy fracurement Energy Procurement Energy Procurement 24 months 103:E9 Energy fracurement Energy Procurement Energy Procurement 24 months 104:E9 Cast of fore	L	078-EO	Electric network control	Electricity operations	Electricity Operations (Distribution & Transmission)	Others	24 months
182.4-E0 Emergency Flavring & Operations Electricity operations Electricity Operations Other Structure St	Ŀ	080-EO	Meter data services	Electricity operations	Electricity Operations (Distribution & Transmission)	Others	12 months
B85E0 Aviation and inspection Electricity operations Electricity Operations Obstact (Q parations) Asset & Engineering 12 months 087-00 Resource management, investment planning & Gas operations Gas operations Control of the analysis of the ananalysis of the analysis of the analysis of the analysis	-						
087-00 Resource management, investment planning & Gas operations Gas operations Gas operations Resource Management, 24 months 1014.EP Gas load forecasting Energy Procurement Energy Procurement 24 months 1014.EP Gas load forecasting Energy Procurement Energy Procurement 24 months 1014.EP Gas load forecasting Energy Procurement Energy Procurement 24 months 1024.EP Gas proteinent services - General Energy Procurement Energy Procurement 24 months 1034.EP Energy Inscription Energy Procurement Energy Procurement 24 months 1034.EP Create nergy Stangly Procurement Energy Procurement Energy Procurement 24 months 1045.EP Create nergy Stangly Energy Procurement Energy Procurement 24 months 106-FT Business application services (mail) IT IT IT 24 months 106-FT Business application services (mail) IT IT IT 24 months 106-FT Business application services (mail) IT IT	F						
101A-EP Gas load forecasting Energy Procurement Energy Procurement Energy Procurement Energy Procurement 24 months 102-EP Gas procurement sensitions Energy Procurement Energy Procurement Energy Procurement 24 months 103-EP Energy transactions (Physical transactions (Phocurement Energy Procurement Energy Procurement Energy Procurement Energy Procurement (Energy Procurement Energy Procurement Energy Procurement Energy Procurement (Energy Procurement Energy Procurement Energy Procurement (Energy Procurement Energy Procurement (Energy Procurement Energy Procurement (Energy Procurement Energy Procurement (Energy Procure		087-GO	Resource management, investment planning &	Gas operations	Gas operations	Resource Management	24 months
102-EP Gas procurement services - General Energy Procurement Energy Procurement Energy Procurement Pannths 1038-EP Energy Transactions (Finical transactions))) 24 monthts	þ	101A-EP	Gas load forecasting	Energy Procurement	Energy Procurement	Energy Procurement	24 months
1038-EP Energy transactions (Financial) Energy Procurement 24 months 105-EP Clean Energy Supply Energy Procurement Energy Procurement Energy Procurement 24 months 106-FP Electric procurement Energy Procurement Energy Procurement 24 months 107-FT Service dex and service magement Energy Procurement Energy Procurement 24 months 108-FT Collaboration services (email) IT IT IT 24 months 109-FT Dotate center services IT IT IT 24 months 110-IT Clean energy encodes IT IT IT 24 months 111-T Commercial services IT IT IT IT 24 months 111-T Clean energy Procurement System (EMS)- IT IT IT IT 24 months 113-T Network support IT IT IT IT IT 2	F	102-EP	Gas procurement services - General	Energy Procurement	Energy Procurement	Energy Procurement	24 months
104-EP Retail Choice Programs Energy Procurement Energy Procurement Energy Procurement 24 months 105-EP Clean Energy Supply Energy Procurement Energy Procurement Energy Procurement 24 months 106-IT Business application services IT IT IT 24 months 107-IT Service desk and service management IT IT IT 24 months 107-IT Service desk and services (enall) IT IT IT 24 months 108-IT Collaboration services (enall) IT IT IT 24 months 110-IT Cellant services (enall) IT IT IT 24 months 111-IT Commercial services IT IT IT 24 months 112-IT Infrastructure services IT IT IT 24 months 113-IT Network support IT IT IT IT 24 months 114-IT IT energy Insegneres services IT IT IT IT 24 months	F	103B-EP	Energy transactions (Financial)	Energy Procurement	Energy Procurement	Energy Procurement	24 months
IDe:T Business application services D T D T D T 44 months 106:EP Electric procurement Energy Procurement Energy Procurement Energy Procurement 24 months 106:IT Service desk and service management IT IT IT 24 months 109:IT Data center services IT IT IT 24 months 110:IT Collent services IT IT IT 24 months 111:IT Connercial services IT IT IT 24 months 112:IT Infrastructure services IT IT IT 24 months 113:IT Network support IT IT IT 24 months 113:IT Network support IT IT IT 24 months 114:IT Rengy Networks IT IT IT 24 months 113:IT Networks support IT IT IT 24 months 114:IT Tecregy Nanagement System (EMS)- <t< td=""><th>F</th><td></td><td></td><td>Energy Procurement</td><td>Energy Procurement</td><td>Energy Procurement</td><td></td></t<>	F			Energy Procurement	Energy Procurement	Energy Procurement	
107-IT Service desk and service management IT IT <th>F</th> <td>106-IT</td> <td>Business application services</td> <td>IT</td> <td>IT</td> <td>IT</td> <td>24 months</td>	F	106-IT	Business application services	IT	IT	IT	24 months
ID0-IT Data center services IT IT IT IT IT IT 24 months 110-IT Clent services IT IT IT IT 24 months 111-IT Commercial services IT IT IT IT 24 months 112-IT Infrastructure services IT IT IT 24 months 113-IT Network support IT IT IT IT 24 months 114-IT If Energy Management System (EMS) - IT IT IT IT 24 months 118-IT Security services IT IT IT IT 24 months 118-IT Emergency response services IT IT IT IT IT 24 months 118-IR Labour and Employee Relations HR HR & Employee Relations Labor Relations 3 months 122-HR Workforce planning and people analytics HR HR & Employee Relations Talent Mand & Learning 24 months 124-FAC Masach	þ	107-IT	Service desk and service management	IT	IT	IT	24 months
111-IT Commercial services IT IT IT IT IT IT IT 24 months 112-IT Infrastructure services IT IT IT IT 24 months 113-IT Network support IT IT IT IT 24 months 114-IT IT Energy Management System (EMS) - IT IT IT 24 months 118-IT Security services IT IT IT 24 months 116-IT Energency response services IT IT IT 24 months 117-IT Exit migration services IT IT IT 24 months 118-IR Labour and Employee Relations HR HR & Employee Relations Labor Relations 3 months 112-IR Taining (Learning and people analytics HR HR & Employee Relations Talent Mgmt & Learning 2 months 122-IR Workforce planning and people analytics HR HR & Employee Relations Talent Mgmt & Learning 2 months 122-IR Masachusetts and New York offices Facilities & Property Services Facilities & Property Services 2 mont	F	109-IT	Data center services	IT	IT	IT	24 months
113-IT Network support IT	E	111-IT	Commercial services	IT	IT	IT	24 months
114-IT IT IT <th< td=""><th>F</th><td>113-IT</td><td>Network support</td><td>IT</td><td>Π</td><td>IT</td><td>24 months</td></th<>	F	113-IT	Network support	IT	Π	IT	24 months
I16-IT Emergency response services IT	F	114-IT	IT Energy Management System (EMS) -				24 months
11B-HR Labour and Employee Relations HR HR & Employee Relations Labor Relations 3 months 11B-HR Training (Learning and Development) HR HR & Employee Relations Talent Mgmt & Learning 2 4 months 122-HR Workforce planning and people analytics HR HR & Employee Relations Talent Mgmt & Learning 24 months 123-HR Talent and Performance Management HR HR & Employee Relations Talent Mgmt & Learning 24 months 124-FAC Masachusetts and New York offices Facilities & Property Services Facilities & Property Services 12 months 12 months 125-FAC Masachusetts and Peroperty Services Facilities & Property Services 12 months 12 months 125-FAC Masachusetts warehouse facilities & Property Services Facilities & Property Services 12 months 125-FAC Masachusetts and analysis France Facilities & Property Services 12 months 125-FAC Masachusetts and analysis France Facilities & Property Services 12 months 125-FAC Masachusetts and analysis France Facilititis & Property Services	F	116-IT	Emergency response services	IT	IT	IT	24 months
122-HR Workforce planning and people markfiles HR HR & Employee Relations People Team 24 months 123-HR Talent and Performance Management HR HR & Employee Relations Talent Mgmt & Learning 24 months 124-FAC Masachusetts and New York offices Facilities & Property Services Facilities & Property Services 12 months 125-FAC Masachusetts and New York offices Facilities & Property Services Facilities & Property Services 12 months 126-FAC Masachusetts areadouse facilities Facilities & Property Services Facilities & Property Services 12 months 127-SC Warehouse facilities Facilities & Property Services Facilities & Property Services 12 months 127-SC Warehouse management Supply Chain Management Inventory Mgmt./Marehouse Mgmt./Fleet Inventory Mgmt./Marehouse Mgmt./Fleet 24 months 130-HSE Health services 51. Environment, Compliance, Training & S HSE HSE 24 months 131-HSE Safety policy & programs 51. Environment, Compliance, Training & S HSE 132-FAC Northboro contact center Facilities & Property Services	þ	118-HR	Labour and Employee Relations	HR	HR & Employee Relations	Labor Relations	3 months
124-FAC Masachusetts and New York offices Facilities & Property Services 12 months 125-FAC Massachusetts warehouse facilities Facilities & Property Services Facilities & Property Services 12 months 127-SC Warehouse management Supply Chain Management Inventory Mgmt/Marehouse Mgmt/Fleet Inventory Mgmt/Marehouse Mgmt/Fleet 12 months 128-FIN Finance & Accounting Finance & Accounting Finance & Accounting Finance & Accounting 12 months 130-HSE Health services E. Environment, Compliance, Training & S HSE HSE 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services 24 months 132-FAC Northboro contact center Facilities & Property Services Faci	F	122-HR	Workforce planning and people analytics	HR	HR & Employee Relations	People Team	24 months
126-FAC Massachusetts warehouse facilities Facilities & Property Services Facilities & Property Services Facilities & Property Services 12 months 127-5C Warehouse management Supply Chain Management Inventory Mgmt./Warehouse Mgmt./Fleet Inventory Mgmt./Warehouse Mgmt./Fleet 24 Months 129-FIN Financia planning and analysis Finance Finance Finance & Accounting Finance & Accounting 12 months 130-HSE Health services bl. Environment, Compliance, Training & S HSE HSE 24 months 131-HSE Safety policy & programs bl. Environment, Compliance, Training & S HSE HSE 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services 24 months 133-FAC Training and analysis Facilities & Property Services Facilities & Property Services 24 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 18 months	F	124-FAC	Masachusetts and New York offices	Facilities & Property Services	Facilities & Property Services	Facilities & Property Services	12 months
127-SC Warehouse management Supply Chain Management Inventory Mgmt.//Fleet Inventory Mgmt.//Warehouse Mgmt./Fleet Inventory Mgmt./Warehouse Mgmt./Fleet 24 Months 129-FIN Financial planning and analysis Finance Finance & Accounting Finance & Accounting 12 months 130-HSE Health services bl. Environment, Compliance, Training & S HSE HSE 24 months 131-HSE Safety policy & programs bl. Environment, Compliance, Training & S HSE HSE 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services Facilities & Property Services 24 months 133-FAC Training facilities Fracilities & Property Services Facilities & Property Services 24 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 124 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 18 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 18 mon	F				Facilities & Property Services		
130-HSE Health services 15. Environment, Compliance, Training & S HSE HSE 24 months 131-HSE Safety policy & programs 1. Environment, Compliance, Training & S HSE 418 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services 24 months 132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services 24 months 132-FAC Training facilities Facilities & Property Services Facilities & Property Services 24 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 18 months 135-FAC Capital Project support Facilities & Property Services Facilities & Property Services 18 months 135-FAC Regulatory Support Facilities & Property Services Facilities & Property Services 18 months 135-FAC Regulatory Support Facilities & Property Services Facilities & Property Services 18 months 136-FAC Regulatory Support Regulatory Support Regulatory Support Regulatory suppo	F	127-SC	Warehouse management	Supply Chain Management	Inventory Mgmt./Warehouse Mgmt./Fleet	Inventory Mgmt./Warehouse Mgmt./Fleet	24 Months
132-FAC Northboro contact center Facilities & Property Services Facilities & Property Services Facilities & Property Services Pacilities & Property Services 24 months 133-FAC Training facilities Facilities & Property Services Facilities & Property Services 24 months 134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services 18 months 135-FAC Capital Project support Facilities & Property Services Facilities & Property Services 18 months 135-FAC Capital Project support Facilities & Property Services Facilities & Property Services 18 months 135-FAC Regulatory Support Facilities & Property Services Facilities & Property Services 18 months 136-FEG Regulatory Support Regulatory Support Regulatory Support 12 months 137-FEG Regulatory Support - Stakeholder Group Regulatory Support Regulatory Support Regulatory Support 6 months 137-FEG Regulatory Support Regulatory Support Procure to Pay Procure to Pay 24 months	F	130-HSE	Health services	cl. Environment, Compliance, Training & Se	HSE	HSE	24 months
134-FAC Right of Way and survey engineering Facilities & Property Services Facilities & Property Services Facilities & Property Services 18 months 135-FAC Capital Project support Facilities & Property Services Facilities & Property Services 18 months 136-REG Regulatory Support - New England Power Regulatory Support Regulatory Support 12 months 137-REG Regulatory Support - Stakeholder Group Regulatory Support Regulatory Support Regulatory Support 8 months 137-REG Regulatory Support - Stakeholder Group Regulatory Support Regulatory Support 8 months 137-REG Regulatory Support - Stakeholder Group Regulatory Support Regulatory Support 6 months 137-REG Regulatory Support - Stakeholder Group Regulatory Support Procure to Pay Procure to Pay 24 months	þ	132-FAC	Northboro contact center	Facilities & Property Services	Facilities & Property Services	Facilities & Property Services	24 months
138-REG Regulatory Support - New England Power Regulatory Support Regulatory support Regulatory Support 12 months 137-REG Regulatory Support - Stakeholder Group Regulatory Support Regulatory Support Regulatory Support 6 months 138-BS Card and Expenses Administration Business Services Procure to Pay Procure to Pay 24 months	E	134-FAC	Right of Way and survey engineering	Facilities & Property Services	Facilities & Property Services	Facilities & Property Services	18 months
137-REG Regulatory Support – Stakeholder Group Regulatory Support Regulatory support 6 months 138-BS Card and Expenses Administration Business Services Procure to Pay Procure to Pay 24 months	F	136-REG	Regulatory Support – New England Power	Regulatory Support	Regulatory support	Regulatory support	
	F	137-REG	Regulatory Support – Stakeholder Group	Regulatory Support	Regulatory support	Regulatory support	6 months
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CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-1 Page 2 of 2

140-EO	Radio and Microwave Systems	Electricity operations	Electricity Operations (Distribution & Transmission)	Radio and Microwave	24 Months
141-EO	Electric Distribution Control Centre	Electricity operations	Electricity Operations (Distribution & Transmission)	Distribution	24 Months
142-EO	Electric Distrbituion Control Centre Backup	Electricity operations	Electricity Operations (Distribution & Transmission)	Distribution	24 Months

This Exhibit A to the draft Transition Services Agreement ("TSA") has been prepared by National Grid USA ("National Grid") for the exclusive use of the party to whom National Grid delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and National Grid (the "Agreement"),¹ National Grid does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of National Grid.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event such information becomes inaccurate.

This Exhibit A to the draft Transition Services Agreement has been prepared solely for informational purposes only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Exhibit A to the draft Transition Services Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require.

For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to "bundle" services where required for operational purposes, e.g., where services are co-terminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Exhibit A to the draft Transition Services Agreement contains material, non-public information concerning National Grid and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among National Grid, National Grid plc and PPL Corporation. The Recipient acknowledges that National Grid considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

DRAFT LEGAL TSAs-Billing & Collection

001-BS: CUTOMER BILLING OPERATIONS	
002-BS: SAP (NON-UTILITY) BILLING OPERATIONS	6
003-BS: PAYMENT PROCESSING	
004 BS: CREDIT & COLLECTIONS	
005-BS: REVENUE ASSURANCE	
006-BS: FINANCIAL TRANSACTIONS	15
008-BS: HIGH VOLUME RESIDENTIAL BILLING	17
009-BS: COMPLEX BILLING ACCOUNT MANAGEMENT	
010-BS: PROTECTIONS	
011-BS: SERVICE APPLICATIONS MANAGER (SAM)	
012-BS: ACCOUNT DATA MAINTENANCE (ADM)	
013-BS: ADVANCED CONSUMPTION, LONG-TERM ESTIMATES, LEAVE LANDLORD	

• 001-BS: Customer Billing Operations

TSA ID:	001-BS
Service:	Customer Billing Operations
Detail:	Provide the following services for customer billing:
	Service Description:
	 Billing Manage manual and automated updates to the billing systems to ensure accurate billing and tariff compliance Manage, including manual efforts, complex contracts and unique billing scenarios that bill outside the billing systems
	 Tariff Rate Modelling Maintain, which include manual efforts, billing system tables/structures related to tariff rate modelling and coordinate with IT on codes changes required for billing
	 Tax Rate Modelling Maintain, which includes manual efforts, billing system tables/structures related to tax rate modelling and coordinate with IT on codes changes required for billing
	 Bill and Letter Composition Modify bill and letter formats, test, and implement changes including coordination with print and mail service provider. This is work done in the composition toolset and coordination with the print and mail service supplier.
	 Bill Messaging Develop planning, scheduling, and testing messages that will appear on customer bill statements. These include system-driven event messages and "marketing" type messages targeted at a specific population and for a given time period.

 Automated (System-Driven) Bill Messaging and Letter Triggering
 With coordination from IT department staff, manage internal system-driven bill messages and letters to customers. An example would be budget billing review and settlement messages that automatically appear on bill statements for those customers enrolled in the program.
Billing Analytics
 Produce billing analytics that are necessary through the course of a month including scheduled and recurring queries, ad-hoc requests for information, and responding to data requests in rate cases and other regulatory requests. This analysis requires use of the production CIS databases, information warehouses, and temporary storage / staging areas. This analysis should be in the same manner and to the same degree of frequency and volume as before Closing.
 Financial Reporting Maintain the G/L transaction translation tables in billing systems Provide reporting for accounts that bill outside the billing system
 Manage all exceptions to the reporting process
 Paper & Electronic Bill, Imaging, Archival, and Delivery Provide paper and electronic bills to all customers of Narragansett utility services
 Customer System Change, Application and Data Security Management
 Perform CSS billing system corrections, changes, and coordinate system access
 Retail Choice Billing, Supplier Transactions, & Pay as you get paid (PAYGP) Management
 Perform all Retail Choice Customer Billing, Supplier transactions, and manage PAYGP agreement

	 Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders <u>Service Exclusions:</u> N/A <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of Operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m.
	 Eastern Standard Time Off hours support as needed to assist with projects and emergencies
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service Representative	

• 002-BS: SAP (Non-Utility) Billing Operations

TSA ID:	002-BS
Service:	SAP (Non-Utility) Billing Operations
Detail:	Provide the following services for SAP Non-Utility billing:
	Service Description:
	 Produce bills in SAP, provide guidance and support to internal billing requestors who bill through the SAP portal and governance around billing accuracy and timeliness
	 Produce bills for various bill types
	 Complete true-up calculation and invoicing for reconcilable construction (including Contribution In Aid of Construction (CIAC)) jobs by comparing upfront estimated payment to actual charges allowed in state tariffs
	 Monitor the SAP portal and provides oversight to bills that route through the portal for approval
	 Research and update customer master data for billings through SAP and delete any duplicate customer data that exists
	 Reconcile and submit journal entries for labor billable accounts and CIAC true up
	 Establish reference field and work with rental billing originators to monitor contracts by providing reporting from SAP that is used to certify contracts
	 Provide reporting to billing originators to measure billing timeliness and accuracy
	 Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	• Document Management – Records Management and IT (SAP ECC) is Responsible for this.
	Contract Administration – Procurement is Responsible for this
	• Work Order Management - IT (STORMS, Maximo, Salesforce) are responsible for this, in addition to the Work Order Management Teams found in the EBU and GBU.

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	 Tax - Tax and Indirect Tax Departments are responsible for Tax Calculations in SAP ECC Environment <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of Operation:</u>
	 Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

• 003-BS: Payment Processing

TSA ID:	003-BS
Service:	Payment Processing
Detail:	 Provide services necessary for timely and appropriate customer payment processing: <u>Service Description:</u> Lockbox management – mail-in customer payments – retail and
	 wholesale Manage Electronic Lockbox Manage authorized third-party payment processors
	 Process and balance daily vendor payment files to CSS Monitor/reconcile bank accounts for Narragansett entities that receive customer payments (utility and non-utility)
	 Process customer returned payments (NSF) Process non-utility payments to invoice(s) on customer accounts
	 in SAP Resolve payment exceptions/investigation Process customer payment reversals to vendors / refunds to non- utility customers
	 Provide customer support for utility/non-utility payments Electronic payment management - ACH (DirectPay, Web, IVR) Manage government payment websites
	 Provide General Ledger activity/payment support Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders <i>Exclusions</i>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway <u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of Operation:</u>

	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

• 004 BS: Credit & Collections

TSA ID:	004-BS
Service:	Credit & Collections
Detail:	Provide services for customer credit & collections activities:
	Service Description:
	Credit and Collections Management
	 Collection strategy execution using a risk-based portfolio management program including:
	 Customer notifications
	• Outbound call management
	 Live agent commercial outbound collections
	• Field collection coordination
	 Management assistance programs
	• Payment plan offerings
	• Customer account write-off
	 Collection agency management
	 Account protection management
	 Liens and judgements
	 Bankruptcy cases
	 Deceased / executor cases
	Customer and account management
	• Manage all account initiation (positive ID, data hygiene)
	• Account finalization following shut-off for non-payment
	 Large commercial account management
	 Security deposit requirements
	Compliance, Analytics, and System Support
	 Financial controls and audit compliance
	 Assure compliance with regulatory rules regarding collection activities and customer protections

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	 Manage credit and collections analytics engine - SQL server
	management, data capture, collection, analysis and visualization using predictive and prescriptive analytics
	 Customer system support – provide business support for
	customer system changes and enhancements
	 Financial Analysis and Rate Case Support
	 Financial performance reporting including monthly bad debt and write off
	 Analysis required to support regulatory reporting obligations
	(e.g. incentive mechanisms, cost recovery)
	• Execution of existing Operational and Sarbanes-Oxley
	• Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and
	regulatory orders
	Service Exclusions:
	• Analysis and preparation of filings, information requests
	with the RI PUC, Division, or other parties. PPL will be the
	with the RI PUC, Division, or other parties. PPL will be the
	with the RI PUC, Division, or other parties. PPL will be the
	with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1.
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	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of
	with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u>
	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m.
Transition Period:	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m.
Transition Period: Fee:	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Eastern Standard Time
Fee:	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Eastern Standard Time
	 with the RI PUC, Division, or other parties. PPL will be the interface with RI PUC on Day 1. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway <u>Hours of operation:</u> Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Eastern Standard Time

Company Service	
Representative	

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• 005-BS: Revenue Assurance

TSA ID:	005-BS
Service:	Revenue Assurance
Detail:	Provide services for Revenue Assurance activities:
	Service Description:
	 Develop and implement strategy to act on identified theft of services / diversion or other revenue losses by:
	 Initiating, assisting and participating in investigations, corrections and recovery of energy and revenue losses
	 Performing loss analysis associated with defective equipment, billing errors, damaged equipment and energy theft
	 Filing civil complaints to recover losses and filing criminal complaints
	 Managing and coordinating regulatory and legal support for all revenue loss related incidents
	 Managing and coordinating customer contact regarding identified issues
	 Managing the Diversion Incentive program which awards employees who report a suspected condition on a meter or service that proves to be a diversion and may result in loss of revenue.
	 Perform case management: Intuit is currently used as Revenue Assurance's Case Management System (Tool) in all Regions, including RI
	• Leverage data / insights to identify deviations and potential revenue loss. Utilize advanced analytic tools to identify end to end process issues. Work with customers to assess, develop and implement policies and procedures to mitigate revenue loss
	• Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	Works with Account Maintenance & Operations (AMO) for back billing of customer accounts - <i>Completed by AMO Team</i>

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	 Does not prosecute nor lead investigations - <i>Completed by</i> <i>Company Legal and External Law Enforcement & Judicial</i> <i>Entities</i> Is not responsible for correction or billing of theft between tenants Detectant - Revenue Assurance does not use the Detectant toolset in RI. <u>Bundling</u> Bundling requirements will be shared as they are identified as part of
	 the service definition and refinement process underway <u>Hours of Operation:</u> Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m.
	Eastern Standard Times
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

• 006-BS: Financial Transactions

TSA ID:	006-BS
Service:	Financial Transactions
Detail:	Provide services for Financial Transaction activities:
	Service Description:
	Bankruptcy (BK) Protections
	 When National Grid is notified of a bankruptcy filing, the Financial team separates the customer's billing covered under bankruptcy from billing that the customer remains responsible for
	Receiverships
	• To provide support related to receiverships which are a court appointed person to act as the custodian of a company's assets or business operation, with the goal of returning them to a profitable state and thereby avoiding bankruptcy. Support may include receiving and reviewing court papers advising of the court appointed person. Once approved, the account is updated with the new responsible party.
	Tax Exempt
	 National Grid to provide necessary in relation tax certifications for all customer accounts that are coded tax exempt: Upon receipt, update accounts and code to exclude tax where applicable, correct bills and rebill to reflect the tax exception
	Outreach to customers when no certification has been received
	Revenue Assurance Back-billing
	 Identify loss of revenue through theft of service and/or assets not accounted for (active meter set in field with no record on file and not set up for billing).
	• Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders

	Service Exclusions:
	• N/A
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of
	the service definition and refinement process underway
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

008-BS: High Volume Residential billing

•

TSA ID:	008-BS
Service:	High Volume Residential Billing
Detail:	Provide services for High Volume Residential Billing:
	Service Description:
	The high-volume Workflow Manager (WFM) team completes prevalent exceptions pertaining to residential accounts to provide the customer with services or corrected billing. Exceptions with some of the more common examples listed below are manually reviewed to determine the appropriate action. Actions may require corrections to the account or premise to allow a bill to generate, service order issuance to collection additional information in order to correct the account or premise, or acceptance of the information so the system knows it is accurate.
	Meter Reading and Billing Exceptions
	• Completion of a variety of exceptions that prevent a bill from generating, this can include discrepancies with rates, meter reads, and invalid data.
	Change Meter Orders
	• The residential billing team issues and completes change meter orders when a meter is not registering correctly (i.e. forced estimates)
	Multiple Edit
	 A multiple edit exception will trigger when a regular reading comes in lower than the service activation. It typically effects multiple accounts and is corrected by maintaining service activation and realigning usage.
	High / Lows
	 A high/low energy WFM is generated when a reading does not fall in line with previous usage. The reading can be higher than normal or lower than normal. Usage is reviewed to determine if

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	it is in line with history and either accept the read or a service order is issued to confirm the information.
-	Connects / Disconnects
	 Resolve errors that are preventing the completion of a start or stop service order. This can include corrections to meter reads, field order data and activation data. The team will review and determine a root cause reason for the error, make the correction and complete the service order to start or stop billing.
-	Stop Meter
	• A stop meter is one that stops registering usage despite the customer still using the service. This typically impacts gas meters. Team reviews the premise information to determine if the stopped meter is acceptable (i.e. seasonal property), if not, outreach is made to the customer in an attempt to investigation the meter conditions. Actions may include a service order issuance and follow up, or correction to the account. If the meter is changed, the team corrects the billing leveraging previous years' history.
-	Final Bill Disputes
	 The customer disputes a final account typically due to fraud. After investigating and the customer providing supporting documentation, the charges are removed through a one-sided credit. Team will review the information provided by the customer and determine if it meets the requirements to remove the charges. They will notify the customer of the decision and if applicable, they will remove the billed charges.
	Miscellaneous Accounts Receivable
	 Many miscellaneous A/R WFM's are issuing credits or refunds for the customer. These include but are not limited to cut-ins credits, net metering credits, escheatment and aged excess credits. The team will receive and review the request for adjustment and process it on the customer's account as applicable.
-	Miscellaneous Customer Service
	 Various requests including but not limited to enrolment or stop of budget billing, cancel/rebilling, connect in error, completion of change meters, connects, disconnects, sets, removes, investigating usage and enrolling in EFT. The team will receive

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	and review the request and take the appropriate steps to resolve the request.
	• Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	• N/A
	<u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service Representative	

• 009-BS: Complex Billing Account Management

TSA ID:	009-BS
Service:	Complex Billing Account Management
Detail:	Provide services for complex billing activities:
	Service Description:
	 Perform meter / account investigations
	 Provide accurate and timely billing
	 Provide accurate billing adjustments
	Gas Transportation/Special Handling Accounts- perform special services for long term, large volume customers based on therms (Gas Units) transported and consumed (e.g. Interval metering)
	 Process connects, disconnects, meter changes, obtain off-cycle readings, do not bill estimates, apply additional charges This requires the team to review errors or exceptions and take the appropriate action would could include
	data corrections on an account or premise, request and follow up on a service order which is needed to collect
	additional information needed to correct an issue, rebilling accounts to correct charges, correcting usage, applying charges.
	 Distributed Generation (DG) / Net Metering- customers that have solar panels and generate their own energy. RI Renewable Energy Growth Program coding. Team receives information and codes the accounts accordingly, as well as rebilling as needed.
	 Demand Billing- Customers that use more than 2,000 kWh per month for four consecutive months are placed on demand billing. Demand billing is focused around the customer's maximum load to ensure the electrical system can handle at peak usage times. The team manage these accounts to ensure accurate billing, and as needed, additional field orders are issued to collect additional information and billing is corrected.
	 No Bill- A customer that does not receive a bill for a period greater than 60 days is considered a No Bill

	 Processing/assigning customer accounts to the proper department to fix accounts to produce a bill
	 Rate Changes- A customer's rate changes are based off the amount of gas or electric the customer is consuming, as well as the revenue class
	 Review and process rate change exceptions to ensure customer is billing on the correct rate
	• Time of Use- Process billing that uses different cost of service based on the season and time of day. This is mainly used by customers that have farms or have purchased an electric vehicle. The team manages these accounts to ensure accurate billing, and as needed, additional field orders are issued to collect additional information and billing is corrected.
	 Non-Regulated Power Producers ("NPP's") - Customers can choose an NPP to supply their needs should they not want to use Narragansett Electric supply services. As needed, the team resolves errors preventing the issuance of a bill, manually adds or drops NPP's.
	 Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	• N/A
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of
	the service definition and refinement process underway
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	

Company Service	
Representative	

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• 010-BS: Protections

TSA ID:	010-BS
Service:	Protections
Detail:	Provide services for protections activities:
	Service Description:
	 Manage documentation provided by customer for financial hardship, proof of payment, handicapped, elderly, infant, serious illness, LIHEAP protection
	Receive LIHEAP assistance pledges and managing accounts
	 Manage documentation provided by doctors for handicapped or serious illness protection
	Manage court and death certificates to code accounts deceased
	Generate usage reports, statements to fulfil usage, and statement requests
	 Process miscellaneous collections to add budget billing, transfer balances, activate payment agreements
	Assess reconnect fees
	Create financial statements for financial hardship
	Transfer past dues balances from final accounts to active accounts
	• Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	 N/A <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m 6:00 p.m. Saturday 8:00 a.m 4:00 p.m. Eastern Standard Time

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Transition Period:	24 months
Fee:	
Seller Service Representative	
Company Service Representative	

• 011-BS: Service Applications Manager (SAM)

TSA ID:	011-BS
Service:	Service Applications Manager (SAM)
Detail:	Service Applications Manager (SAM) Provide services for new service initiation: Service Description: • Verify leases and deeds • Connect correct customer with corresponding premise • Verify IDs • Verify a minor is not listed as the customer • Check with Experian if customer is fraudulent • Manage adjustments to customers assuming past balances • Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and
	 endities ensuring compliance with balances, and regulatory orders <u>Service Exclusions:</u> N/A <u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway

	 <u>Hours of Operation:</u> Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Saturday 8:00 a.m. – 4:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

• 012-BS: Account Data Maintenance (ADM)

TSA ID:	012-BS
Service:	Account Data Maintenance (ADM)
Detail:	Provide services for Account Data Maintenance:
	Service Description:
	The ADM team maintains both customer and service information to ensure that the account and service is being upheld for accurate billing and customer satisfaction purposes.
	• Stopped Meter- Stopped Meter WFMs are generated when a meter has zero usage but continues billing for at least two months. This process determines if a meter has stopped registering usage either due to a defective meter or stopped use of the meter by the customer (i.e. seasonal)
	• UTC WFM- Connect orders issued to field can be put in an unable to complete (UTC) status due to various reasons. The goal is to act to remove the UTC
	• Undeliverable electronic bills ("eBills") - Customers set up on paperless billing, request their monthly bills be sent to them via email. These accounts are reviewed and updated if the customer has not successfully received their e-bill
	 Returned Mail- Returned paper mail is sorted to be delivered to the corresponding team to handle
	 Scanning- Documents that need to be scanned to customer accounts are run through a program called Kofax
	Order Completion- field orders that could not systematically close and need additional manual intervention
	Statement Request
	 Escalations and audit activities
	 Mixed Metering- meters that are switched in the system and billing the incorrect customer
	Fast/Slow review
	Demand meter report review

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	Processing and maintenance of discount rates and renewals
	Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	• N/A
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of
	the service definition and refinement process underway
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

• 013-BS: Advanced Consumption, Long-Term Estimates, Leave On For Landlord

TSA ID:	013-BS
Service:	Advanced Consumption, Long-Term Estimates, Leave On For Landlord
Detail:	Provide services for Advanced Consumption, Long-Term Estimate, and Leave On For Landlord activities:
	Service Description:
	Advanced Consumption team manage the process of connecting a customer in the office to an active meter in the field to ensure accurate billing.
	Advanced Consumption
	 Research accounts attempting to resolve the lost consumption with the possible outcomes- connect Is completed, shut off and seal the meter, pole cut or cut at the curb
	 Long Term Estimates (LTE's)
	 Research accounts to find an individual able to provide access to process a change meter so regular company reads can be obtained and bills can be provided to the customer correctly for consumption
	Leave on for Landlord (LOFL)
	 Process application and deletion forms for landlords interested in enrolling/de-enrolling in the LOFL program
	Execution of existing Operational and Sarbanes-Oxley controls ensuring compliance with statutes, tariffs, and regulatory orders
	Service Exclusions:
	• N/A
	<u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway

	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	
Seller Service	
Representative	
Company Service	
Representative	

This Exhibit A to the draft Transition Services Agreement ("TSA") has been prepared by National Grid USA ("National Grid") for the exclusive use of the party to whom National Grid delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and National Grid (the "Agreement"),¹ National Grid does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of National Grid.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event that such information becomes inaccurate.

This Exhibit A to the draft Transition Services Agreement has been prepared solely for informational purposes only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Exhibit A to the draft Transition Services Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require.

For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to "bundle" services where required for operational purposes, e.g., where services are co-terminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Exhibit A to the draft Transition Services Agreement contains material, non-public information concerning National Grid and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among National Grid, National Grid plc and PPL Corporation. The Recipient acknowledges that National Grid considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

DRAFT LEGAL TSAs-Customer Services

038-CS: CUSTOMER SALES AND SOLUTIONS	3
039-CS: CALL CENTER OPERATIONS	4

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038-CS: Customer Sales and Solutions

TSA ID:	038-CS
Service:	Customer Sales and Solutions
Detail:	National Grid will provide management consulting services and additional knowledge transfer to achieve transition of Utility Services and Analysis Support ("USAS") functions as described below.
	Electric Connections USAS
	• Responsible for providing the business with Contribution In Aid of Construction (CIAC) management, load estimation and financial analysis while supporting CIAC recovery, and compliance with rules, regulations and policies
	Gas Connections USAS
	• Responsible for providing the business with Contribution In Aid of Construction (CIAC) management, IRR modelling, load estimation and financial analysis while supporting CIAC recovery, and compliance with rules, regulations and policies
Transition Period:	3-6 Months
Fee:	
Seller Service	
Representative:	
Company Service Representative:	

TSA ID:	039-CS
Service:	Call Center Operations
Detail:	 National Grid's Call Center shall continue to provide services for the Company in a manner consistent with the practices of the Company during the twelve-month period prior to Completion, subject to any changes requested by the Company that are reasonable or required by applicable Requirement of Law. These services shall include: All Call Center Operations (manage customer service
	 problems, requests, inquiries and customer transactions) O Establish new customers
	 Customer Move-In, Move-Out
	• Gas Lead Intake for new customers
	 Managed Account Services (MAS)
	 Customer & Account Maintenance (maintain customer / account attributes, enroll/drop products & services) Outage / emergency /storm management
	• All residential and commercial customer transactions in all customer channels
	 All offline (non-call) clerical and transaction work Manage vendor agent staffing levels as necessary due to call volume (storm and non-storm)
	Workforce Management
	 Forecasting of calls volume, staffing needs, and service levels on a rolling 12 month basis and as requested and needed;, reporting of all regulatory, operational, and agent based performance metrics, and associated data on monthly basis (at a minimum), perform ad hoc reporting as requested, and interfacing with IT related vendors (system monitoring, call recording, call routing)
	• Agent management (scheduling of agents, performance management)

• Communications team to manage Cite knowledge base and
agent resources to assure accuracy and timeliness.
• Vendor Management (call quality monitoring, agent coaching,
translation services)
• Manage all vendor relationships to ensure service and
performance expectations are met and performance is
sustained per contracts.
• Deliver Training to all agents, both internal and vendor
• Develop new training, revise current training and maintain
training plan to meet.
• Supervisors continue monitoring and coaching internal agents.
Storm Recovery
• Manage staffing levels internal and with vendors during storms and outages.
• Manage all storm related technology, including and not limited to 21 st Century, outbound dialer messages, and IVR messages.
 Serve in assigned ICS storm roles during storm events and
communicate outage updated to CS organization
• Execution of existing Operational and Sarbanes-Oxley controls
ensuring compliance with statutes, tariffs, and regulatory
orders
National Grid will maintain current hours of operation. Staffing levels
will be monitored and adjusted to meet demand, which includes the
recruitment of agents to cope with peak periods of call activity
National Crid will provide the Company with monthly data related to
National Grid will provide the Company with monthly data related to regulatory and operational metrics. Seller will provide the Company
with ad-hoc reporting and data as requested and reasonable.
whith all not reporting and data as requested and reasonable.
Exclusions
Customer Advocacy
• Direct customer assistance and community engagement
and hold required office hours at community action
locations. Manage relationships and interactions with
community action agencies and customer base

	 Arrearage Management Program (AMP) plan enrollment, monitoring and reporting. Low Income Home Energy Assistance Program (LIHEAP) bill crediting process and related discount rate data match with Community Action Program Agencies (CAPs).
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
	Call center business hours are Monday – Friday, 7 am – 7 pm. Coverage is provided 24 x 7 for gas emergencies and outages
	Collections call hours are Monday – Friday, 7am – 9pm, and on Saturdays 7am – 5pm.
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service Representative:	

This Transitional Service Agreement ('TSA') has been prepared by National Grid USA (the "Company") for the exclusive use of the party to whom the Company delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and the Company, the Company does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of the Company.

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For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to 'bundle' services where required for operational purposes e.g. where services are co-terminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Transitional Service Agreement contains material, non-public information concerning the Company and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among the Company, National Grid plc and PPL Corporation. The Recipient acknowledges that the Company considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information for any purpose other than for the purposes presented.

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101A-EP: Gas Load Forecasting

ID	101A-EP
Service: Energy	Gas Load Forecasting
Procurement	
Detail:	 National Grid will make available its employees to provide Load Forecasting on behalf of the Company in a manner consistent with the provision of such services prior to Completion, including: Determine daily and long-term natural gas requirements:
	 Retail demand forecast – monthly forecast of customer load requirements for residential, commercial & industrial, and sales service and transportation services 10-years ahead at both company- and zip code-levels Wholesale requirements forecast – daily forecast of customer load requirements at the city-gate. This forecast aligns the monthly retail demand forecast to the most recent 12 months. Forecasted under normal, design, and cold snap conditions 10-years ahead at both company- and zip code-levels
	 Compliance and Regulatory Support Develop, prepare and submit gas demand forecasts, customer requirements forecasts, and contribute to gas supply plans that support cost of gas rate recovery filings. Conduct economic impact analysis at the macroeconomic level for large capital projects to satisfy regulatory requirements Effectively manage state regulatory agencies by representing the Company in regulatory proceedings (e.g. annual Gas Cost Reconciliation ("GCR"), annual Long-Range Resource and Requirements Plan ("LRP") dockets) through written filings, data request responses, and live testimony, and by representing the Company in day-to-day interaction with RIPUC and RI division; and by responding to directives from the regulators to modify the company's methodologies and approach to forecasting.

• Prepare and file in a timely manner all periodic
submissions as per PUC Rules.
 Internal Budgeting and Planning Support. Provide a dedicated group of analysts to model and forecast gas demand and customer requirements and assist in preparation of gas supply plans that satisfy those requirements in support of the company's revenue forecasting and budgeting function and the distribution system planning functions. Modeling and forecasting include the following activities: Database Management - Obtain all internal and external data, and maintain the appropriate data bases used in the analysis and effort to build the forecast models Model Development - Build the statistical models that are used to forecast demand by customer class and rate class and customer requirements for the system as a whole Data Analysis - Analyze the results of the demand forecasts and customer requirements forecasts against actual performance to test the accuracy of the models and the forecast methodologies Internal Interface – Provide timely peak day customer requirements forecast and gas supply plans to gas procurement and contracting so they can contract for needed upstream pipeline and storage capacity, and gas supplies Internal Interface – Respond to internal inquiries for data and ad hoc analysis on historical data and forecasts in support of various departments
Service Exclusions:
• Exclusions will be shared as they are identified as part of the service
definition and refinement process underway
Bundled services:

	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

101B-EP: Electric Load Forecasting

ID	101B-EP
Service: Energy	Electric Load Forecasting
Procurement	
Detail:	National Grid will make available its employees to provide Load
	Forecasting on behalf of the Company in a manner consistent with the
	provision of such services prior to Completion, including:
	• Determine daily and long-term electric requirements:
	Retail Sales Forecasting includes the following forecasts
	by company, revenue class, and rate code:
	 15-year ahead monthly forecasts
	 Pre- and Post-Distributed Energy Resources (DERs)
	Supply Forecasting includes:
	 For retail (customer) level:
	 Provider type (competitive supplier or company)
	• Revenue class (residential, commercial, and
	industrial)
	 For wholesale level:
	• By zone and revenue class
	• By calendar month
	Peak Forecasting includes:
	 15-years ahead for summer and winter
	 Hourly load profiles
	• Peak day: summer and winter
	• Typical day: weekday and weekend by season
	• By scenarios:

 Weather (normal, extreme, climate change) DERs, Base, High & Low By: ISO Zone, Power Supply Areas (PSAs) and towns / counties as needed Day Ahead Forecasting in the interval of one hour using weather forecast Compliance and Regulatory Support Develop, prepare, and submit electric demand forecasts, customer requirements forecasts Conduct economic impact analysis at the macroeconomic level for large capital projects to satisfy regulatory requirements Prepare and file in a timely manner all periodic submissions as per PUC Rules. Internal Budgeting and Planning Support. Provide a dedicated group of analysts to model and forecast electric demand and customer requirements and assist in preparation of supply plans that satisfy those requirements in support of the company's revenue forecasting and budgeting function and the distribution system planning functions. Modeling and forecasting include the following activities: Database Management - Obtain all internal and external data, and maintain the appropriate data bases used in the analysis and effort to build the forecast models Model Development - Build the statistical models that are used to forecast demand by customer class and rate class and customer requirements for the system as a whole Data Analysis - Analyze the results of the demand forecasts and customer requirements forecasts against actual performance to test the accuracy of the models and the forecast methodologies
forecasts and customer requirements forecasts against actual performance to test the accuracy of the models and

	 Service Exclusions: Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

102-EP: Gas Procurement Services - General

ID	102-EP
Service: Energy	Gas Procurement Services - General
Procurement	
Detail:	National Grid will provide the following gas procurement services in a manner consistent with the provision of such services prior to Completion: These services shall include:
	 Gas supply planning according to long-term and short-term, peak hour, and other gas supply planning criteria including design weather; Pipeline and upstream capacity (transportation and storage requirements)
	 LNG delivery and transportation requirements, commodity procurement (including determination of base load purchases by pipeline, swing purchases by pipeline, storage injections/ withdrawals, purchases for LNG liquefaction); Strategy development; RFP solicitation and evaluation; Internal plan development and documentation/transaction approval; Gas contracting (e.g., NAESBs and interstate pipelines):
	 Acquisition of long-term supply and pipeline capacity Assist in federal regulatory proceedings Managing asset management agreements LNG:
	 Maintain approved LNG vendor list Development of bids and bid evaluation criteria Contracting for product and transportation (portable and non-portable) storage and portable storage equipment, and liquefaction and vaporization if any
	 Procurement and capacity modeling Scenario analysis, ongoing portfolio analysis, transportation and storage capacity analysis, and procurement (supply) analysis; Internal and external reporting;
	 Support state and federal regulatory filings compliance; Request PUC contract approval as needed

	 Support middle- and back-offices relating to accounting; credit support and cash flow analysis and data access in Horizon with respect to monthly closes and any of the gas procurement services Provide informal training to employees of the Company with respect to any of the gas procurement services described in this section, to the extent reasonably requested Service exclusions: Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

103A-EP: Energy Transactions (Physical Transactions)

ID	103A-EP
Service: Energy	Energy Transactions (Physical Transactions)
Procurement	
Detail:	 National Grid will make available its employees to support the Company's Energy Transactions (Physical) programs in a manner consistent with the provision of such services prior to Closing, including: Physical transactions include Execute supply plan (doily and short term) based on
	 Execute supply plan (daily and short-term) based on demand outlook. Purchase monthly base load and daily spot natural gas supply to meet gas customer requirements. Exercise supply calls pursuant to Asset Management Arrangements and long-term supply options. Carry out scheduling of physical transactions so that Gas is scheduled for delivery from point of purchase and nominated/delivered to the Company's city-gate, gas storage facility and/or to the point of sale (off-system). Record physical transactions, interstate pipeline capacity release activities required for system supply optimization. Capture all commodity transactions in National Grid's gas trading system (currently Horizons) each day prior to close of business. Support retail access program including execution of capacity releases and storage inventory transfers
	 Optimization Services include Determination of base load purchases by pipeline and swing purchases by pipeline, storage injections/withdrawals, and any off-system sales of gas either for optimization or load balancing; dispatch; analysis lop monthly plan to include establishing a proxy (index) to optimize against and breakeven points to trade Trade physical gas daily to capture cost savings vs index

	 Identify and execute arbitrage opportunities based on locational (basis) spreads and time (e.g., summer vs. winter), including physical and financial (hedging) transactions Release temporarily un-needed transportation capacity via pipeline Electronic Bulletin Boards during non-peak periods. Design and execute Asset Management Arrangements with third party managers to solicit competitively priced management fees. Internal and external reporting Support middle- and back-offices relating to accounting; credit support and analysis Service Exclusions: Exclusions will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

103B-EP: Energy Transactions (Financial)

103B-EP
Energy Transactions (Financial)
 National Grid will make available its employees to support the Company's Energy Transactions (Financial) programs in a manner consistent with the provision of such services prior to Completion, including: Financial Transactions include. Financial Transactions include. Financial hedging planning (volatility mitigation hedge plan) and transaction activities for natural gas supply (includes optimization and storage activities other than volatility hedge planning); Determination and calculation of incentives under any regulatory program; Support management of regulatory agencies and support the Company in regulatory proceedings through written filings, data request responses, and live testimony; analysis; internal and external reporting Execute Gas Price Volatility Management Program pursuant to Plan approved by Approved Gas Volatility Program. Financial hedges conducted pursuant to ISDA agreements between Narragansett Electric Company's existing counterparties. Capture all transactions in National Grid's gas trading system (currently Horizon) each day prior to close of business. Through knowledge transfer, National Grid will provide informal training to employees of the Company with respect to any of the gas procurement services described in this section, to the extent reasonably requested

	• Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	Bundled services:
	• Bundling requirements will be shared as they are identified as part
	of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

104-EP: Retail Choice Programs

ID	104-EP
Service: Energy	Retail Choice Programs
Procurement	
	National Grid shall make available to the Company its personnel for providing support in relation to the retail choice programs, in particular the following:
	 Managing and administering large and small volume retail choice programs;
	• Tracking, confirming, and monitoring gas deliveries by marketers, including:
	 Calculation and transmittal of delivery requirements Monitoring of third-party deliveries to maintain tariff compliance
	 Balancing and billing of third-party gas deliveries Balancing service for daily metered customers
	Billing for daily metered customer imbalances Approving marketers
	• Regulatory, compliance, and legal support;
	• Billing marketers for penalties (i.e., storage and peak);
	• Determination of pipeline capacity requirement and release of capacity for retail choice customers including calculation of storage and peaking requirements for third party suppliers
	Service exclusions:
	 Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-3 SCHEDULE A Page 15 of 21

TRANSITION SERVICES

Seller Service	
Representative:	
Company Service	
Representative:	
-	

105-EP: Clean Energy Supply

ID	105-EP
Service: Energy	Long Term Clean Energy Supply
Procurement	
	National Grid shall make available to the Company its personnel for providing support in relation to clean energy supply, in particular the following:
	Long-term contracts
	 Development and filing of long-term clean energy Request for Proposals (RFPs) (annual to meet Long Term Contracting Standard requirement, or voluntarily as agreed to by company) Evaluation and selection of winning bidder(s) in RFP process Contract negotiation and contract filing Pre-COD contract administration, track existing contract project progress General contract administration (estoppels, assignments, change in control)
	Market Base Rate Triannual Filing FERC Monthly Filing
	 Renewable Energy (RE) Growth Program Open Enrollment - assist in generating the tri-annual regrowth solicitations. Assist in generating new rules and tariff changes and incorporating them into solicitations. Update websites for bidding process. Evaluation. Administration - filing RE Growth projects with the PUC. Issue certificate of eligibility to developer when PUC approves solicitation to start developing.
	 Service exclusions: Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	Bundled services:

	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 Months
Fee:	
Seller Service	
Representative:	
Company Service	
Representative:	

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106-EP: Electric Procurement

ID	106-EP
Service: Energy	Electric Procurement
Procurement	
	National Grid shall make available to the Company its personnel for providing support in relation to electric procurement energy supply, in particular the following:
	Last Resort Service (LRS)
	LRS Procurement Plan submission to Rhode Island PUC
	 Request for Proposals (RFPs) posted through National Grid's website
	 Quarterly RFP filings
	 Rate hearings and discovery (data requests by PUC and Division)
	 Daily load bidding utilizing forecasts provided by the Advance Data Analytics Team
	• Load bidding spot market analysis for quarterly NE pricing informational filing
	 Generate Master Power Agreement contracts and amendments Model the Capacity Risk Premium (CRP) estimate for PUC requirement quarterly
	 Annual Retail Rate Filing (ARRF) to include CRP results, analysis on under/over recovery of LRS costs, rate hearings, and discovery
	Municipal Aggregations to be included in LRS plans
	• Annual ICAP Tag and Load Forecast analysis and review
	Renewable Energy Certificates (RECs)
	 Annual compliance filing (July) to demonstrate RECs meet Renewable Energy Standard (RES): existing and new RECs
	Annual Procurement Plan submission to PUC
	• Purchase existing RECs in at least 2 RFPs; execute Certificate Purchase Agreement (CPA) for transactions
	Purchase Agreement (CPA) for transactions Soll Phode Island New PECs quarterly through Paguest for Pide
	 Sell Rhode Island New RECs quarterly through Request for Bids (RFBs) and brokers; execute Master Certificate Sales
	Agreements

•	Receive and deliver RECs through NEPOOL-GIS; coordinate
	with Back Office for invoice for payment or receipt
•	GreenUp Program – allowing LRS customers to choose
	renewable energy supplier; GreenUp supplier delivers RECs to
	NECO.
	 Manage GreenUp REC inventory
	 Determine REC quantity requirements per supplier based on customer load
•	 Disclosure Labels Quarterly filings of LRS customers' supply
	characteristics, which are calculated from RECs in the NEPOOL GIS account
	• Work with Creative Market to generate labels
•	RES Charge – Submit annual (Feb) filing in coordination with
	NE Pricing to determine the cost to comply with RES next year
•	Generate quarterly internal accounting reports
Powe	r Purchase Agreements (PPAs)
•	Internal Bilateral Transactions (IBTs) to deliver hourly energy
	revenue to NECO's ISO account. Confirm every 6-months and
	more frequently during resettlement
•	Semi-annual Long-Term Contract Renewable Energy Recovery
	Factor filings to recover the above market costs of PPAs.
	Requires coordination with NE Pricing and typically discovery
	questions from PUC
•	Forward Certificate Transfers (FCTs) and other REC deliveries
	in NEPOOL-GIS. For NECO's accounts, RECs are
	automatically deposited. For other accounts, RECs are delivered
	manually or through FCTs
•	Establish quarterly REC transfer prices for RECs used by LRS.
	REC transfer prices are the REC sales price paid by LRS
	customers
•	Orbit PPA – NECO uploads emissions data to NEPOOL-GIS to
	mint RECs

 Renewable Energy (RE) Growth Program Register RE Growth assets to NEPOOL-GIS account as Rhode Island New REC, once approved by PUC Quarterly estimate of aggregation RECs based on nameplate capacity Provide inputs to NE Pricing's annual RE Growth filings Support various projects regarding ISO energy settlements, etc. Establish quarterly REC transfer prices for RECs used by LRS. REC transfer prices are the REC sales price paid by LRS
 Island New REC, once approved by PUC Quarterly estimate of aggregation RECs based on nameplate capacity Provide inputs to NE Pricing's annual RE Growth filings Support various projects regarding ISO energy settlements, etc. Establish quarterly REC transfer prices for RECs used by LRS.
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 Support various projects regarding ISO energy settlements, etc. Establish quarterly REC transfer prices for RECs used by LRS.
• Establish quarterly REC transfer prices for RECs used by LRS.
REC transfer prices are the REC sales price paid by LRS
customers
Qualifying Facilities
 Maintain existing qualifying facilities, update Adapt 2 for
quarterly LRS price changes
 Manage Capacity Supply Obligations if necessary
• Manage Capacity Supply Congations II necessary
Irregular requirements
 Provide support that is required on an irregular basis for:
• regulatory purposes,
• one-off projects regarding Virtual Net Metering energy
settlement,
o internal reporting, and
 risk committee strategies
• Security Administrators for NECO with the ISO. Approve
digital certificates used by employees to access ISO
applications. Work with auditors annually to show there are
controls in place, etc.
Service exclusions:
• Exclusions will be shared as they are identified as part of the service
definition and refinement process underway
Bundled services:
 Bundling requirements will be shared as they are identified as part
• Building requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period: 24 Months
Fee:

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-3 SCHEDULE A Page 21 of 21

TRANSITION SERVICES

Seller Service	
Representative:	
Company Service	
Representative:	

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¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS – GAS OPERATIONS AND ENGINEERING (THE</u> <u>NARRAGANSETT ELECTRIC COMPANY)</u>

087-GO: (CONSULTANCY	SERVICES FO	R DISPATCH	SUPERVISION	1 1	3
091-GO: (GAS CONTROL (CENTER OPER	ATIONS			5

087-GO: Consultancy Services for Dispatch Supervision

	 Provide clarity to Internal and external notification Protocol Provide guidance on Emergency Response Plan and Protocol Provide clarification and support for performance reporting Escalation management knowledge Shift planning and coordination insights Exclusions: National Grid will not perform line management responsibilities
	 National Grid will not perform the management responsionities on behalf of the Company for Dispatch Supervisors or Dispatchers. National Grid will not perform or make day-to-day operational decisions on behalf of the Company.
Transition Period:	12 months
Fee:	[TBD]
Seller Service Representative:	Director, New England Dispatch Operations
Company Service Representative:	Director, Gas Asset Integrity Management and Compliance

<u>091-GO: Gas Control Center Operations</u>

ID	091-GO	
Service: Gas Operations	Gas Control Center Operations	
Operations Detail:	 The Seller will provide gas system control, monitoring and management services in a manner consistent with the support provided to the Company prior to Completion. This will include use of any gas control dispatch systems used by the Company prior to Completion. Specifically, the Seller agrees to assist the Company with the following activities: Monitor Gas System Operation; operate and manage the gas system to meet supply contracts, respond to abnormal operating conditions and manage alarms Prepare gas day with supply, close out gas day Confirm gas nominations to the city gate Manage system operating procedures (SOP) program Dispatch LNG to meet system supply needs Manage LNG trucking to maintain inventory at plants Daily and monthly balancing of transportation Control room management Provision of gas controller knowledge transfer for PPL appointed controllers required for Rhode Island standalone Gas Control Center to support TSA exit. Complete all regulatory responses required for Gas Control Center regulatory audits Maintain all non-SCADA gas control programs 	
	 <u>Bundling</u>: The provision of Gas Control Center Operations transitional services is dependent on the provision of the Gas Supply transitional services as described in 101-EP Gas and Electric Load Forecasting and 102-EP Gas Procurement Services. 	

Transition Period:	24 Months
Fee:	[TBD]
Seller Service Representative:	Director, New England Control Center
Company Service Representative:	Director, Gas Asset Integrity Management and Compliance

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DRAFT LEGAL TSA – Electric Operations and Engineering Confidential – Draft for Discussion

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070B-EO – DISTRIBUTION ASSET MANAGEMENT AND PLANNING5
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139-EO: DISTRIBUTION ATTACHMENTS
140-EO: RADIO AND MICROWAVE SYSTEMS
141-EO: ELECTRIC DISTRIBUTION CONTROL CENTER
142-EO: ELECTRIC DISTRIBUTION CONTROL CENTER BACKUP

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-5 SCHEDULE A Page 3 of 40

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070A-EO: Transmission & Sub-Transmission Asset Management and Planning

ID	070A-EO
Service:	Transmission & Sub-Transmission Asset Management and Planning
Detail:	 Planning National Grid will make available its employees to support and perform Asset Management and Planning services related to the Company's electric Transmission, sub-transmission, and Transmission substations in a manner consistent with the provision of such services prior to Closing, in particular: Execute all transmission planning activities (under State, ISO-NE, NPCC,RTO, RE FERC and NERC) including identification of work scope into Asset Management process, adherence and support of compliance requirements and analysis of new transmission interconnection requests Capacity planning review for feeders, transformers, and sub-transmission lines. Annual reviews and tactical studies will also be provided by National Grid, as requested Address customer concerns for power quality, reliability reviews and other customer issues for feeders, transformers, sub-transmission lines. Support the creation and management of area-based asset health, maintenance and vegetation strategies for targeted feeder, substation and transmission equipment
	 Provide asset, reliability and outage data to support the creation of Asset Management projects and programs Support non-wires alternatives assessment and bid process Review new load interconnection requests and recommend infrastructure reinforcement as needed. Support negotiations and management of agreements governing interconnections necessary for load customer to connect to transmission or distribution system Conduct interconnection studies for new generation installed on distribution, sub-transmission, and transmission system and follow all established tariff processes to execute agreements and perform engineering and construction to accommodate the interconnection requests

	• Prepare proposed remediation solutions and investment
	grade estimates for planning initiatives and reliability reviews
	• Develop device control settings for line reclosers, line regulators Support compliance audit activity and retain all applicable evidence for future audits
	• Provide support and continue to pursue state regulatory filings for Siting of lines and any required reporting.
	• Support permitting and licensing activities as needed to ensure compliance with all regulations.
	• Support existing as well as new Right of Way (ROW) requests, maintain and update ROW and Real Estate records, perform property outreach, due diligence investigations, maintain rental payments, and resolve landowner complaints.
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service Representative	
Company Service Representative	

070B-EO – Distribution Asset Management and Planning

ID	070B-EO-EO
Service:	Distribution Asset Management and Planning

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Detail:	 National Grid will make available its employees to support and perform services related to the Company's electric Distribution asset Management and Planning functions and programs in a manner consistent with the provision of such services prior to Provide support and turnover of projects, initiatives, and programs currently in progress Perform all distribution planning responsibilities to National Grid's planning process and procedures, regulatory requirement until fully transferred to PPL RI organization. Continue to support interconnection studies for new generation installed on distribution, sub-transmission, and transmission system and follow all established tariff processes to execute agreements and perform engineering and construction to accommodate the interconnection requests Provide support and continue to pursue state regulatory filings until fully transferred to PPL RI organization.
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	6 months
Fee:	
Seller Service Representative	
Company Service Representative	

071-EO: Maintenance Strategy Engineering and Technical Services

ID	071-EO
Service:	Maintenance Strategy Engineering and Technical Services
Detail:	National Grid National Grid will perform and support services related to the Company's technical support services for emergency work on major substation electrical equipment, work methods, maintenance strategy and engineering related to transmission, sub- transmission and Transmission substations. Specifically, National Grid agrees to perform the following activities:
	Work Methods
	Provide work methods of maintenance for Transmission, Substation, Distribution, Relay, and Telecom assets
	Emergency Response & Repair
	 Provide technical support services for emergency work on Transmission and transmission Substation, Underground cable testing and fault finding Provide Company option to purchase materials to repair vintage equipment if the material is not available in the marketplace
	Transmission Maintenance Strategy and Engineering
	 Administration, management, and initiation of maintenance programs including but not limited to planned maintenance, inspections and corrective maintenance. Provide assessment and interpretation of test results. manage equipment data repository and equipment risk criteria, Identify and evaluate repair or replacement options and develop repair or replacement work scopes Recommend materials, supplies and third-party services to effectively complete repairs or maintenance to the Company. Provide recommendations on personnel, tools and
	equipment to perform the repair to the Company

	 Provide technical advice to address issues identified during the execution of the work requested Provide technical and procurement advice to the Company with regard to adequate sparing of OH, UG and Substation Equipment. Perform asset field surveying activities and associated support required for asset maintenance and installations Update/maintain as required Spill Prevention Control and Countermeasure (SPCC) Plans Services Provide management and services of streetlight
	maintenance and engineering services, facilitate street municipal sales and inquiries, and respond to regulatory tracking and filings.
	<u>Exclusions</u>
	 The Company will be responsible for procuring the materials and executing the repairs and maintenance Additional exclusions will be shared as they are identified as part of the service definition and refinement process underway
	Bundling
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service Representative	
Company Service Representative	

072-EO: Electric Engineering and Design

ID	072-ЕО
Service:	Electric Engineering and Design
Detail:	National Grid National Grid will make available its employees to support and perform for the Company the following engineering and design services for distribution work currently in progress or Transmission projects in a manner consistent with the provision of such services prior Completion:Non-Complex• Project Engineering and Design (Field Work)
	 Project Engineering and Design (Central Design) Distribution Control and Instrumentation Services Telecom Engineering and Design Services to include private telecom networks (i.e., private fiber and point-to-point microwave, RF mesh, land-mobile radio), leased circuits/services, and telecom network interconnections with ISO NE, neighboring utilities Pawar Quality Monitoring (in addition to simple
	 Power Quality Monitoring (in addition to simple voltage/current monitoring performed by Design) General Engineering Supervision Assist with property rights issues (non-legal) Prepare permit applications (e.g. pole petition with town/city) Assist with joint-use pole work and transfer requests
	 Complex Transmission, Sub-transmission and Substation engineering and design Design and structural support for in-flight distribution line, transmission, sub-transmission, and substation projects Protection and control systems engineering and design Telecom engineering and design services Material specification and ordering Assist project management team in development of construction scope and outage timeline

	 Assist project management team with permitting support (e.g. explanation of need, explanation of scope, addressing questions that surface from external parties that are engineering related) Assist project management team with municipal and agency support for construction Develop device control settings for Transmission and Substation Distribution circuit breakers Acceptance of facilities and commissioning Perform field surveying and staking and collect field survey data as necessary (surveying, staking) Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service	
Representative	
Company Service Representative	

073A-EO: Codes & Standards

ID	073A-EO
Somiaa	Cadas & Standards
Service:	Codes & Standards
Detail:	 National Grid will make available its employees to support the Company's Codes and Standards functions in a manner consistent with the provision of such services prior to Closing : To provide consultation for prior and current Seller Codes and Standards To provide information on any in-progress or proposed Codes and Standards changes To provide consultation as the Company updates or modifies codes and standards To provide Standards support for in-flight and ongoing projects Provide design philosophies, storm hardening and best practices Execute recurring tasks supporting industry standards compliance (NERC, TPL, PRC, CIP, etc)
	Exclusions Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service Representative	
Company Service Representative	

073B-EO: Electric Lab & Field Testing

ID	073В-ЕО
Service:	Electric Lab & Field Testing
Detail:	 National Grid will make available its employees to support and provide Electric Lab and testing services related to Rhode Island Transmission and Distribution system to the Company's functions in a manner consistent with the provision of such services prior to Completion for operational and regulatory requirements: Electric Lab and Field Testing Meter Standards and Woodson Test Services EMF Testing Services Power Quality Testing Services UG Cable Testing (Lab) root cause analysis testing for failed sections sent from field. Infrared (IR) Testing Rubber Goods Testing and Maintenance Bucket Dielectric Testing
	Instrument Calibration <u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service Representative	

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-5 SCHEDULE A Page 13 of 40

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074B-EO: Electric Meter Shop

ID	074B-EO
Service:	Electric Meter Shop
	Electric Meter Shop National Grid will provide the following services to the Company in a manner consistent with the provision of services prior to completion, in particular • Manage inventory • Perform bench meter tests for: Customer and regulator inquiries/complaints Regulator-mandated testing programs Pre-test reinstallation meters Test certain percentage of new meters Provide general tech support to the Company regarding meter application Process meters for reuse in field after remove or exchange Provide resources and services related to wholesale transmission and substation meters Meter programs required by applicable regulatory authorities (does not apply to wholesale transmission) O Coordinate with vendor to create a random list of installed meters by model to be exchanged O Feeds list provided into Statistical Analysis program O Monitor test results by ANSI (American National
	 Monitor test results by ANSI (American National Standards Institute) standards (remove outliers and creates separate reports as required by regulatory authorities
	 Create year end reports to be delivered to regulatory authorities . The reports will be submitted to the regulatory authorities by the Company Follow up for additional information requests by regulatory authorities
	<u>Exclusions</u>

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	Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service	
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075A-EO: Investment Management and Workplan Development

ID	075A-EO
Service:	Investment Management, Workplan Development
Detail:	National Grid will make available its employees to support the Company's resource and workload planning programs in a manner consistent with the provision of such services prior to Closing , in particular:
	Investment Management and Workplan Development
	• Develop and track five-year Transmission and Distribution capex and asset management plan; assist with asset strategy and planning recommendations
	Liaison with Asset Management and Finance to develop work plan based on approved and resourced budget
	• Provide necessary capex inputs into the PPL budgeting and financial processes in support of PPL timing and business planning
	Handle customer interactions prompted by program executions regarding schedule and complaints
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service Representative	
Company Service Representative	

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075B-EO: Resource Planning & Resource Coordination (across T&D)

ID	075B-EO
Service:	Resource Planning and Resource Coordination
Detail:	National Grid will make available its employees to provide and support the Company's resource planning and resource coordination programs in a manner consistent with the provision of such services prior to Completion, in particular:
	 Resource Planning Support company's local Transmission and Distribution management and contract delivery management for job resource allocation Provide resource planning services to the Company related to Transmission, Sub-transmission, Substation and Distribution related to overhead, underground, protection and telecommunication (PTO organization) along with substation work management and support contract delivery management for job resource allocation. Support the Company in coordination, and prioritize, the fiscal year plan based on operational requirements, workload needs, and investment management network strategy recommendations
	Resource Coordination
	 Manage Digsafe/Re-Dig permits Prepare permit applications Assembly of work packages Initiate work Create work orders
	Non-Complex Project/ Program Management (Distribution)
	 Assist construction and project management for the execution of the work Assist project administration and accounting coordination Assist cost management and reporting

	 Handle customer interactions including prompted by program executions regarding schedule and complaints, including DOT driven projects and communications Assist production of relevant specifications and requests for proposals to be issued to contractors and suppliers Assist project close-out activities <u>Exclusions</u> Exclusions will be shared as they are identified as part of the service definition and refinement process underway <u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service	
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Company Service Representative	

076-EO: Planned Major Maintenance & Capital Construction

ID	076-ЕО

Service:	Planned Transmission and Sub-Transmission Major Maintenance & Capital Construction
Detail:	National Grid will make available its employees to provide the Company with the planning and management of significant Transmission and sub-transmission maintenance work on major substation electrical equipment. Specifically, National Grid agrees to provide the Company with the following support:
	Project Development
	 Develop scope of work Production of detail work plans, schedules and budgets Define material and service requirements Assist the supply chain team with negotiations and award contracts for materials and services Prepare and provide necessary support in alignment with current gated process or requested PPL gated process to advance work into execution with project management
	Project Management
	 Provide the execution of the maintenance work Project close-out including cost settlement, reporting and documentation Design engineering Material procurement, requisitions and expediting Regulatory applications, permits (federal, state and local) Environmental management coordination Construction management and safety coordination Project filing and records and document management functions as identified by NG internal process or at the direction of PPL Ensure the coordination of PPL resources or NG TSA-related resources across projects Incorporate any changes in execution strategy into project management process

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	Estimating
	 Provide sanction level estimates for Transmission Line, Substation, and Distribution Line complex Capital projects Provide conceptual level estimates for Transmission Line and Substation complex Capital projects Provide estimates to support distributed generation interconnect studies/applications/agreements Provide estimating related support for rate case filings, regulatory inquiries, and/or legal disputes as requested Support FERC Order 1,000 projects
	 Project Controls Provide monthly schedule updates, on behalf of project owners through closeout Provide cost and schedule analysis to project owners. Portfolio & WO Controls Model and Monitor 5-year Capex and Cost of Removal (COR) constrained workplan Monitor and prioritize milestones to ensure maturity and execution of workplans Analyze portfolio of all in-flight work for progress against cost (forecast/budget) and schedule (milestones). Oversee end-to-end WO operational and financial lifecycles
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	Bundling
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months

Fee:	
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077A-EO: Vegetation Management (Transmission and Distribution)

ID	077
ID	077-
	EO
Service:	Vegetation Management (Transmission and Distribution)
	· egetation management (manshibsion and Distribution)
Detail:	National Grid will make available employees to support and
	perform the following Transmission and Distribution services
	related to vegetation management in a manner consistent with the
	provision of such services prior to Completion:
	provision of such services prior to Completion.
	Verstetion Menorement Operations
	Vegetation Management Operations
	• General supervision and management of the vegetation
	management program execution including planned and
	emergent work
	• Assistance with the preparation of related regulatory filings
	• Assistance with vendor management, including oversight,
	contracting and invoicing
	Response to emergency storm events
	Exclusions
	Exclusions will be shared as they are identified as part of the
	service definition and refinement process underway
	service definition and remement process under way

	<u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	6 months
Fee:	
Seller Service Representative	

Company Service	
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<u>078-EO: Electric Transmission Network Control</u> [If T&D Line and Substation Operators are a Day 1 Transfer, this service is excluded]

ID	078-EO
Service:	Electric Transmission & Sub-Transmission Network Control [If T&D Line and Substation Operators are a Day 1 Transfer, this service is excluded]
Detail:	National Grid will provide the resources and systems to make available employees to the Company to support and operate the RI perform the following Transmission and sub-transmission Electric Network Control required to operate the Transmission and Distribution on behalf of PPL RI in a manner consistent with the provision of such services prior to Completion:
	 Transmission and Distribution Electric System Operations including system operating procedure management; compliance and auditing; switching; permit and tagging; storm dispatch; storm switching restoration and repair; off-hour crew call out respond to abnormal operating conditions, and manage system alarm Maintain system operator training & qualifications Regulatory notifications responsible by the operations center Support ISO New England Transmission Responsibilities Maintain all network operations control systems Maintain curerent methods to communicate with field crews, including radios, mobile phones, landlines, and satellite phones Provide Rhode Island operating procedures and backup system documentation as requested to the company Perform Transmission, Sub-Transmission, and related Substations and Distribution Switching (Planned and Emergency) Provide backup transmission network operations in the event of a loss of the Company primary control center
	<u>Exclusions</u>

	Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Dur dling manufactor will be shared as they are identified as part
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
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079-EO: Mapping & Records

ID	079-ЕО
Service:	Mapping & Records
Detail:	National Grid will provide GIS/mapping, records, and records services in support of the Company's operations in a manner consistent with the support provided prior to Completion, in particular: GIS Map updates (non-design jobs)
	 IS400 updates and changes RCC CAD Print update/create for Distribution Feeders PowerOn (Outage Management System) updates/changes Large Project Map creation
	 Non-GIS records Municipal/Regulatory Map Requests (petitions, etc.) Easement drawings Work completion (as-built and administration) Right of way records Protection device setting files Voltage support device (i.e., capacitor banks, voltage regulators) settings files Electrical drawings Equipment drawings Clerical and General Administration
	<u>Exclusions</u> Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months

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080-EO: Meter Data Services

ID	080-EO
Service:	Meter Data Services
Detail:	 National Grid will provide data meter services for electric and gas in a manner consistent with the services provided prior to Completion, in particular: Meter data collection Validation of meter data Meter data storage Distribute meter data to downstream functions Load research Estimate and troubleshoot services for no meter reads Wholesale settlement for ISO New England Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	2412 months
Fee:	
Seller Service Representative	
Company Service Representative	

081-EO: NERC/NPCC-Reliability Compliance

ID	081-EO
Service:	North American Electric Reliability Corporation (NERC) and Northeast Power Coordinating Council (NPCC) - Reliability Compliance
Detail:	National Grid will make its personnel available to the Company to support and perform compliance related tasks to maintain compliance with NERC Reliability Standards, Critical Infrastructure Protections and Operational and Planning Standards, including the NPCC and Critical Infrastructure Protection ISO-NE In addition, National Grid will provide assistance in reliability compliance self-Assessment, external reliability compliance reporting (in each case to the extent reasonably required). For future regulatory audits (e.g., FERC, NPCC, and ISO-NE), National Grid will provide records retained from the audit period to demonstrate compliance.
	National Grid will provide its process documentation (e.g. procedures, policies and job-aids), and a list of compliance due dates and make available its subject matter experts for consultation on reliability compliance and issues related to the Company, including consultation related to the development of the Company's own compliance program.
	Any potential remediations that the Company may be accountable for supporting in the future should be reviewed by the Company before any final decision. Development of the company's own compliance program
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	6 months

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Fee:	
Seller Service	
Representative	
Company Service	
Representative	

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<u>082A-EO: Emergency Planning and Operations</u>

ID	082A-EO
Service:	Emergency Planning and Operations
Detail:	National Grid will provide emergency planning and operations to the Company in a manner consistent with the support provided prior to Closing, in particular:
	Manage outages caused by storms and other factors such as natural disasters, cyber-attack, major equipment failure.
	Develop and maintain risk mitigation plans to; prepare for, respond to, and recover from, and inform its constituents regarding business interruption incidents that may occur.
	Provide plans for the five major functional areas per the recommended Incident Command Structure protocol: Command staff, Operations, Planning, Logistics, and Finance.
	Provide storm and outage preparation, execution, response, and ongoing operations to include:
	 Storm / outage preparation operations include: Emergency classification and response plan activation. Model and forecast weather to help estimate resource requirements to address projected outages
	• Resource acquisition. Acquire internal restoration resources, utility mutual assistance resources, external contractors, services from retirees, mutual assistance, command and staff resources
	• Storm / outage operations include:
	o Coordinate support logistics. Coordinate for materials, fleet, staging site, facilities, and communication devices.
	o Coordinate personnel logistics. Coordinate for meals, lodging, and information services.
	 o Financial accounting. Establish emergency charge accounts, track time and materials, process claims, and assure cost recovery.
	o Command and control and storm room operations
	o Damage assessment / wires down support
	o Conduct branch- and state-level briefings

	Post-storm / outage operations include:
	o Conduct post event after action reviews (AAR)
	o Track all AAR actions
	o Update Emergency Response Plan (ERP) as
	necessary
	o Prepare storm reports when required
	Ongoing operations include:
	o Support coordination with municipal, state,
	regulatory, and federal agencies
	o Coordinate with safety, health, and environmental
	• Conduct annual training exercises in compliance
	with applicable legal and regulatory requirements
	<u>Exclusions</u>
	Evolutions will be showed as they are identified as next of the
	Exclusions will be shared as they are identified as part of the
	service definition and refinement process underway
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	Bundling requirements will be shared as they are identified as part
	of the service definition and refinement process underway
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Transition Period:	6 months
Fee:	
Seller Service	
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ID	083-EO
Service:	Aviation and inspection
Detail:	National Grid will provide Aviation and Inspection services, in particular:
	• Provide management, coordination, and administration of aviation program for planned inspections
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	12 months
Fee:	
Seller Service Representative	
Company Service Representative	

<u>083-EO:</u> Aviation and Inspection

084-EO: Shared Telecom Network (STN)

ID	084-EO
Service:	Shared Telecom Network
Detail:	 National Grid will provide Engineering, Operations, and Administration services related to the STN to the Company in a manner consistent with services provided prior to completion and in accordance with Shared Telecom Network and other telecom lease agreements and obligations. Administrative – coordinate with Fiscal Agent (EverSource) to collect the net-out of STN billing charges between other STN partners Operations – operate, monitor, and maintain the STN portion owned by National Grid Engineering – Provide operations support and provide STN Management Committee and Operating Committee representation For processes identified above that result in any investment decisions or regulatory commitments, identification and recommendations should be consistent with PPL strategy and communicated to PPL for approval.
	Exclusions
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway <u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service Representative	

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-5 SCHEDULE A Page 35 of 40

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ID	139-ЕО
Service:	Distribution Pole Attachments Program
Detail:	 National Grid will provide attachments program management and services as outlined below: Perform Joint Ownership Pole and third party attachment billing. Manage all aspects of Distribution & Transmission Third-Party Attachments (ILEC, CATV, CLEC, Wireless, 5G, Public/Private, etc.) - License Agreements, OH & UG Specifications/NESC requirements, Application process, Make-Ready Survey/Engineering/Construction/Permitting to meet FCC/PUC timelines, One-Touch Make-Ready/Self-Help, Cost-Causer Billing, Attachment Rate Calculations/Rental Billing process, Delinquent Invoices, etc. Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	6 months
Fee:	
Seller Service Representative	
Company Service Representative	

<u>139-EO:</u> Distribution Attachments

140-EO: Radio and Microwave Systems

ID	140-EO
Service:	Radio and Microwave Systems
Detail:	 National Grid will make available for use its radio system to PPI RI and maintain the system operations in a manner consistent with the provision of such services prior to Completion: Allow access and maintain radio system to support DCC operations and field operations Maintain microwave system Ensure licenses are maintained for Rhode Island Exclusions Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service Representative	
Company Service Representative	

141-EO: Electric Distribution Control Center

ID	141-EO
~	
Service:	Distribution Control Center
Detail:	National Grid will make available distribution control systems and procedures to the Company to needed to allow PPL RI support and perform the following Electric Network Control required to operate the Distribution in a manner consistent with the provision of such services prior to Completion:
	 Distribution Electric System Operations including system operating procedure management needed to operate the distribution system switching; storm dispatch; storm switching restoration and repair; off-hour crew call out respond to abnormal operating conditions, and system alarms Support or perform system operator training &
	 qualifications Regulatory notifications responsible by the operations center
	<u>Exclusions</u>
	Exclusions will be shared as they are identified as part of the service definition and refinement process underway
	<u>Bundling</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
Seller Service Representative	
Company Service Representative	

<u>142-EO:</u> Electric Distribution Control Center Backup

ID	142-EO
Service:	Distribution Control Center Backup
Detail:	 National Grid will provide resources and systems to provide backup distribution control systems operations in the event the primary DCC facility is not capable to perform and operate the RI electric distribution system in a manner consistent with the provision of such services prior to Completion: National Grid to provide the resources and systems needed to operate a backup RI DCC electric system on behalf of PPL RI. Exclusions will be shared as they are identified as part of the service definition and refinement process underway Bundling Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	
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CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-5 SCHEDULE A Page 40 of 40

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This Exhibit A to the draft Transition Services Agreement ("TSA") has been prepared by National Grid USA ("National Grid") for the exclusive use of the party to whom National Grid delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and National Grid (the "Agreement")¹, National Grid does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of National Grid.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event that such information becomes inaccurate.

This Exhibit A to the draft Transition Services Agreement has been prepared solely for informational purposes only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Exhibit A to the draft Transition Services Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require.

For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to "bundle" services where required for operational purposes, e.g., where services are co-terminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Exhibit A to the draft Transition Services Agreement contains material, non-public information concerning National Grid and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among National Grid, National Grid plc and PPL Corporation. The Recipient acknowledges that National Grid considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS - BUSINESS SERVICES (THE NARRAGANSETT</u> <u>ELECTRIC COMPANY)</u>

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035-BS: Balance Sheet Account Reconciliations

TSA ID:	035-BS
Service:	Balance Sheet Account Reconciliations
Detail:	 National Grid will provide the Company monthly and quarterly balance sheet account reconciliations. Reconciliations will be provided as per the timetable below: Monthly and Quarterly – Working day 15 Monthly and Quarterly IFRS at half-year and fiscal year-end
	 Working day 12 Monthly and Quarterly regulatory – Working day 16 Quarterly tax – Working day 8 of the following month Quarter Month 1 – Working day 15 Quarter Month 1 IFRS at half-year and fiscal year-end – Working day 12
	 The Seller will continue to apply the following thresholds during the transition period: \$0-5K- auto certified <\$100k- any reconciling item greater than \$100K require an addendum (a formal action plan), which is escalated to their respective Director
	Bundled services:
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	12 months
Fee:	[TBD]
Seller Service Representative	Director of Close and Consolidations Assistant Financial Controller, New England

Company Service	Director of Shared Accounting Services
Representative	Director of Accounting & Financial Reporting

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This Exhibit A to the draft Transition Services Agreement ("TSA") has been prepared by National Grid USA ("National Grid") for the exclusive use of the party to whom National Grid delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and National Grid (the "Agreement")¹, National Grid does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of National Grid.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event that such information becomes inaccurate.

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¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS - BUSINESS SERVICES (THE NARRAGANSETT</u> <u>ELECTRIC COMPANY)</u>

014-BS: SUPPLY CHAIN MASTER DATA MANAGEMENT (MDM)
015-BS: ACCOUNTS PAYABLE5
016-BS: TRANSACTIONAL PROCUREMENT7
017-BS: MANAGE PROCURE TO PAY (P2P)9
018-BS: PROCURE TO PAY (P2P) SYSTEM 11
019-BS: STORM FILING PROCESS 12
020-BS: CAPITAL DELIVERY AND SHOP ON BEHALF OF / RECEIVE ON
BEHALF OF (SOBO/ ROBO) 13
138-BS: CARD AND EXPENSE ADMINISTRATION 14

014-BS: Supply Chain Master Data Management (MDM)

TSA ID:	014-BS
Service:	Supply Chain Master Data Management (MDM)
Detail:	Service Description:
	 Gather and update supply chain master data, including: Contract Master Data Materials Master Data including manufacturer information Vendor / Supplier Master Data and onboarding Data quality and completeness (data cleansing to improve quality, exception reporting) Data governance and controls (standard taxonomy) Design and develop workflows for supply chain master data Provide the Company with relevant 1099 data required to comply with IRS regulations and issue relevant 1099 documents to vendors
	Service Exclusions:
	Materials Requirement Planning ("MRP")
	Fleet vehicle master
	• Employee master
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay
Company Service Representative	Director, Supply Chain

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015-BS: Accounts Payable

TSA ID:	015-BS
Service:	Accounts Payable
Detail:	 Accounts Payable Service Description: Review invoices and payment requests for accuracy and controls compliance Process valid invoices for payment Monitor and manage any invoice that cannot be processed for payment due to a discrepancy between invoice and Purchase Order (PO). Perform outreach to customers (internal or vendor / supplier) to resolve discrepancies Process and disburse payments and resolve and answer payment enquiries Enter property tax bills into PowerPlan system, analyze and bill tax for shared properties Process return checks and rejected payments Escheatment process – Identify stale dated checks meeting dormancy period and submit to Cash Accounting to perform outreach to payee. The payments are then reissued to the payee or sent to the state if no response.
	 Determination of valid accounting and allocations Perform confirmations on behalf of NG Requestor <u>Bundled services</u>: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay

Company Service	Manager, Corporate Cash
Representative	

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<u>016-BS: Transactional Procurement</u>

TSA ID:	016-BS
Service:	Transactional Procurement
Detail:	Service Description:
	 Assistance with determining which suppliers / vendors can meet customer requirements and finding the most competitively priced solution. Activities include the following:
	 Gather customer requirements
	 Match needs to supplier capability (through event analysis process)
	• Review of requisitions and shopping carts for data validation, accuracy, compliance, and suitability
	Creation and distribution of POs, processing of PO modifications and cancellations as efficiently and accurately as possible
	Supplier ISN compliance and safety standard checks
	Aid with research and resolution of order exceptions
	<u>Service Exclusions</u> :
	 Global Procurement and / or strategic type activities (e.g. engineered / custom materials, multi-year complex services)
	Create requisitions / shopping cart
	 Delegation of Authority (DOA) approval of requisitions / shopping cart
	Order expedition
	Delivery acceptance
	Record receipt of goods
	 Monitor quality of product / services
	 Support inventory & production processes
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]

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Seller Service	Director, Procure to Pay
Representative	Director Global Procurement Strategy
Company Service Representative	Director, Supply Chain

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017-BS: Manage Procure to Pay (P2P)

TSA ID:	017-BS
Service:	Manage Procure to Pay (P2P)
Detail:	 Service Description: Manage P2P related inquiries from customers and third parties including questions regarding purchasing, receiving, invoicing, travel and expenses, payments and other SAP related processes. Facilitate the identification of improvement opportunities including designing and implementing streamlined processes and championing change across customers. Lending subject matter expertise for corporate initiatives. Providing both functional and analytical skills, with reporting capabilities, that enable fact-based decision making. Activities include the following: Develop and maintain procedures Maintain payments strategy Perform communication & training for P2P functions Procurement reporting requirements and standards Evaluate & implement improvement opportunities Retain records Manage customer inquiries Provide insightful reporting / analysis to monitor the health of the end to end procure to pay process Service Exclusions: General questions and support related to employee services, payroll, and benefits Various components of global procurement reporting including global spend, diversity spend and market research reporting. <i>Bundled services</i>:
Transition Period:	 Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway. 24 months
Fee:	[TBD]

Seller Service	Director, Procure to Pay
Representative	
Company Service	Director, Supply Chain
Representative	Manager, Corporate Cash Manager, Payroll Administration, Planning & Controls

018-BS: Procure to Pay (P2P) System

TSA ID:	018-BS
Service:	Procure to Pay (P2P) System
Detail:	Service Description:
	• Evaluate, optimize and maintain SAP suite of systems (Concur, ECC, SRM, ARIBA) in addition to the incident management system (Right Now) that enables Procure to Pay. Responsibilities include:
	 Solving user system issues
	 Perform daily system health checks and resolve system interface errors
	 User Acceptance Testing, coordination and support for scheduled/unscheduled maintenance across all systems utilizing Source to Pay data.
	<u>Service Exclusions</u> :
	Ariba Sourcing
	Ariba Spend Visibility
	User Access
	Front Office support
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay
Company Service Representative	Director, Supply Chain

019-BS: Storm filing process

TSA ID:	019-BS
Service:	Storm Filing Process Support
Detail:	<u>Service Description</u> :
	National Grid will provide all storm related expense data to facilitate storm filings post-Closing:
	 Compile storms costs and supporting documentation for all expenditures related to the storm event
	 Prepare recovery file and exhibits for regulatory review
	Respond to information requests
	Deferrals/accruals
	Journal entries
	 Mutual aid and Verizon billing
	Create and maintain storm work orders
	Service Exclusions:
	 Regulatory final storm cost accounting filing submission to regulators
	 Regulatory data request submission to regulators
	 90-day storm reporting submission to regulators
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay
Company Service Representative	Director, Distribution Asset Management & Engineering

<u>020-BS: Capital Delivery and Shop on behalf of / Receive on behalf of (SOBO/ROBO)</u>

TSA ID:	020-BS
Service:	Capital Delivery and Shop on behalf of / Receive on behalf of (SOBO/ ROBO)
Detail:	Service Description:
	Create ad-hoc shopping carts and confirmations
	Reporting of monthly accruals
	• Work with the business on creating or increasing purchase order limits
	Storm invoice review and shopping and confirmation creation
	Create shopping carts, confirmation and provide Purchase Order maintenance support for non-complex construction contracts for Electric Civil Work
	Create shopping cart and provide purchase order maintenance for non-complex construction contracts for Electric Distribution, Gas Mains & Services, Gas Restoration and Paving.
	 ACIS Passthrough invoices for Electric Distribution
	Reconciliation of P-card transactions to support documentation used for storm activity in Rhode Island
	Service Exclusions:
	 Validate accounting provided in requests.
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay
Company Service Representative	Director, Supply Chain

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<u>138-BS: Card and Expense Administration</u>

TSA ID:	138-BS
Service:	Card and Expense Administration
Detail:	Service Description:
	 Notwithstanding Schedule 5.12, Section 2 to the contrary, the parties agree to the support the completion of administrative functions, expense processing and payments required to use the card programs (Procurement Card, Storm Card, Corporate Travel Card) Card administration and support activities include the following: Card Setup Card Audit Exceptions Handling Reconciliation and Accruals Contract and Policy Administration / Execution Service Exclusions: Purchase Approval and Reconciliations Expense creation and approval Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, Procure to Pay
Company Service Representative	Director, Supply Chain

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SERVICE DESCRIPTIONS - BUSINESS SERVICES (THE NARRAGANSETT ELECTRIC COMPANY)

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021-BS: Employee Services Support Center

TSA ID:	021-BS
Service:	Employee Services Support Center
Detail:	 Service Description: Oversight of Manager and Employee Self-service Complete processing functions of HR-related transactions Case/Issue Management (e.g., creation, routing, tracing, assignment, and closing of a case) Research and troubleshoot data inaccuracies, and assist with problem resolution Respond to income verification escalations Respond to Service Award escalations Escalation of complex inquiries to HR Administration or Payroll Support for additional research/guidance Provide maintenance on all Pontoon and Managed Service Provider Contractor resource including hire, extension, and termination User Acceptance Testing, coordination and support for scheduled/unscheduled maintenance across all systems utilizing HR data
	 Service Exclusions: Recruitment COVID-19 related exception/policies (including time entry) Absence (disability) management, including Rhode Island TDI and sick leave calculations Non-Employee Master Data information systems Medical accommodations information, physical and drug screening records Physical security clearance Maintenance outside of regular National Grid system updates Hours of Operation: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Chad Jones
Company Service Representative	To be determined

022-BS: Human Resources Administration

TSA ID:	022-BS
Service:	Human Resources Administrations
Detail:	 Service Description: Personnel action processing and assistance – initiates, validates, approves, updates, and/or documents personnel actions and employee master data (e.g. new hires, job changes, separations, pay changes, direct deposit, etc.) including, but not limited to: Oversight for separation management, automated collection and distribution of employee information pertaining to employee's separation to including notifications to relevant departments/functions and exchange of data in the normal course of business Primary contact for Payroll-related transactions and inquiries to pay employees timely and accurately Process and respond to inquiries (e.g., direct deposit updates, garnishments, overpayments/underpayments, schedule changes, tax withholding updates, time entry, voluntary payroll deductions, company sponsored program reimbursements, quota buckets, vacation payouts, and W2 reprints/remailing) Escalation of complex inquiries to Payroll Operations for research/guidance Provide administration, consultation, and specialist support of in-scope benefit and employee plans, which may include interface support, data entry, employee letters, and existing NG vendor relations. Recruitment Non-Employee Master Data information systems Medical accommodations information, physical and drug screening records Physical security clearance Human Resources Administrative policies/procedures not dependent on National Grid payroll or HRIS specific applications or procedures Hours of Operation: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Chad Jones
Company Service Representative	To be determined

023-BS: HRIS - Organization and Position Management

TSA ID:	023-BS
Service:	HRIS - Organization and Position Management
Detail:	Service Description:
	 Maintain organizational hierarchy as well as position management and corresponding relationships. This includes the National Grid US enterprise structure, personnel structure, cost centers, organization units, positions, job code modifications, hierarchy updates, labor distribution, new job codes, position updates, and custom "Z" objects Facilitate reporting and monitoring against standards to mitigate issues and risk
	Service Exclusions:
	• Significant restructuring with regards to system changes for organizational hierarchy change requests by PPL
	Hours of Operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Ron Fasoldt, Dawn Menditto
Company Service Representative	To be determined

024-BS: HRIS – Reporting

TSA ID:	024-BS
Service:	HRIS - Reporting
Detail:	 <u>Service Description</u>: Create, update, and maintain scheduled and ad-hoc existing reports consistent with current practice associated with HR-related data (e.g., time, payroll, organization management, master data, benefits) Data requests may come from internal and external sources (e.g. multiple regulatory agencies, labor requests, auditors, etc.) <u>Service Exclusions</u>: Contractor and UK data is limited. Benefit enrollment data/details that are maintained outside of the core SAP system should be accessed via external vendors. Supply Chain and Finance data housed in SAP <u>Hours of Operation</u>: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Ron Fasoldt, Dawn Menditto
Company Service Representative	To be determined

025-BS: HRIS - Technology Support Services

TSA ID:	025-BS
Service:	HRIS - Technology Support Services
Detail:	 Service Description: Provide centralized HRIS technology support consistent with current processes for existing HR programs which may include application support, interface issues, and user access Direct coordination with Third Party Administrators ("TPAs") with regard to existing interfaces reliant on HR data (e.g., employee master data, benefit related data) Oversight of integration related services with regards to HR data (e.g., employee master data, benefit related data) HR technology subject matter expert and liaison for the HR Department with IT and Finance departments. Monitors and participates in HRIS system updates and Personnel Action forms per current practice noting that potential product design changes or newly implemented National Grid programs may require use by conveyed employees and/or by PPL Performs verification and investigates and resolves questions and problems to ensure accuracy and completeness Service Exclusions: Above service descriptions applicable only to systems, applications, or interfaces still managed by National Grid and excludes any significant system or interface changes, reverse file feeds, and new integrations requested by PPL UK specific systems Hours of Operation: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Ron Fasoldt, Dawn Menditto
Company Service Representative	To be determined

026-BS: Employee Records & Information Requests

TSA ID:	026-BS
Service:	Employee Records and Information Requests
Detail:	 Service Description: Respond to information requests for subpoenas and subpoenas ducas tecum (e.g., wage reports, work history, pay statements) Respond to regulatory information requests on behalf of employees Request and conduct an initial review of employee files to assist in legal reviews Provides the capability to store, protect, archive, classify, retrieve and retire documents and information with Records Management Facilitate maintenance, release, and transport of records and information in accordance with regulations and standards to mitigate issues and risk Provide support for employee verification processes to the extent not covered by a third-party vendor Service Exclusions: Does not provide or deliver any legal advice to employees, attorneys, or governing bodies; not responsible for the physical storage of employee files Hours of Operation: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Chad Jones
Company Service Representative	To be determined

027-BS: Benefits administration

TSA ID:	027-BS
Service:	Benefits Administration
Detail:	 Service Description: Oversight of third-party administrator ("TPA") for health and welfare administration and benefits counseling to include, but not limited to, initial enrollment, annual enrollment, changes, terminations, benefit options, eligibility and benefit deductions for conveying employees and retirees. Exception handling for benefits counseling Facilitate research and escalations related to health and welfare inquiries Participate in testing, training and change management processes for existing systems and current processes required by National Grid, which may include application support, interface issues, and user access Provide the capability to report employee participation in benefits programs Ad hoc knowledge transfer to support PPL with any retirement planning sessions facilitated for prospective retirees Death processing including detailed review of each individual situation to assess further benefits due, followed by preparation and sending of condolence letter Coordination with all necessary parties (internal partners and/or vendors) to ensure seamless transition of pension payments, survivor benefits and support throughout the death process Support ACA compliance reporting Sox control, valuation and audit support for conveying employees and retirees Provide administrative support of benefit plans, including data entry in SAP, letters to employees, vendor relations, etc.
	 Provide oversight of the following third-party administrators Student loan payments (managed by Tuition io) Caregiver benefits (managed by Bright Horizons for Management employees) Service Exclusions: Above service descriptions applicable only to benefit plans still managed by National Grid and excludes any new benefit plans or vendor relationships set up by PPL Benefit administrators are prohibited from making recommendations or decisions regarding employee/retiree benefit selections Communications content to support benefit counseling needs associated with exception handling Strategic planning relating to PPL's open enrollment planning cycle upon TSA completion Facilitation of the health and welfare vendor payment process for administrative services and claims

	 Excluded oversight of the following TPAs: Employee Assistance Program ("EAP") (managed by CCA) Death of a dependent (managed by TPA) Hours of Operation: Benefit Services Center: Support is available from Monday – Friday, 8:00 a.m. – 5:00 p.m. Eastern Standard Time MetLife: Support is available from Monday – Friday, 8:00 a.m. – 11:00 p.m. Eastern Standard Time
Transition Period:	24 months, to be bundled with payroll and HRIS TSAs
Fee:	[TBD]
Seller Service Representative	Pam Azwell Retirement services: Chad Graber Investment Management: Francine Kollydas
Company Service Representative	To be determined

028-BS: 401k administration

TSA ID:	028-BS
Service:	401k Administration
Detail:	 Service Description: Oversight of third-party administrator ("TPA") to include, but not limited to eligibility, benefit options, initial enrollment, annual enrollment, changes, terminations, and benefit deductions In accordance with payroll processing, weekly and monthly reconciliation and funding of all Company Core and employer matching contributions to individual retirement savings accounts with Vanguard In collaboration with Vanguard, share data and/or support with reconciliation for annual non-discrimination compliance testing Provide data for PPL to complete annual true-up testing for eligible populations Case management escalations and analysis of employee questions/issues for Vanguard escalations Assisting Vanguard with data requests relating to Qualified Domestic Relations Orders ("QDROs") for QDROs initiated prior to 2011 Provide the capability to report employee participation in benefits programs Sox control and audit support for conveying employces and retirees Provide administrative support of 401k plans, including data entry in SAP, letters to employees, vendor relations, etc. Service Exclusions: Above service descriptions applicable only to retirement plans administered by National Grid vendors and excludes any new retirement plan designs or new vendor relationships set up by PPL. Financial advice on match deferral elections and investment choices is prohibited Support for annual audit of plan(s) for conveying employees and retirees Mid-year nondiscrimination testing
Transition Period:	24 months, to be bundled with payroll and HRIS TSAs
Fee:	[TBD]
Seller Service Representative	Nancy McLaughlin/Chad Graber
Company Service Representative	To be determined

029-BS: Pension administration

TSA ID:	029-BS
Service:	Pension Administration
Detail:	Service Description:
	 Oversight of third-party administrator ("TPA") to include, but not limited to eligibility, changes, terminations, and benefit deductions for existing National Grid vendors Case management and analysis of employee questions/issues Vendor and invoicing management, ongoing review of fees Vendor management and oversight of benefit calculation escalations, Administration of Qualified Domestic Relations Orders ("QDROs") Ongoing maintenance of retiree payroll changes (i.e., direct deposit, tax withholding changes)
	 Sox control, valuation and audit support for conveying employees and retirees Provide administrative support of pension plans, including data entry in SAP, letters to employees, vendor relations, etc.
	 Service Exclusions: Above service descriptions applicable only to retirement plans administered by National Grid vendors and excludes any new retirement plan designs or new vendor relationships set up by PPL Any employee who does not meet National Grid qualifications to be enrolled in a pension plan Support for annual audit of plan(s) and compliance with ERISA guidelines for conveying employees and retirees Hours of Operation: Support is available from Monday – Friday, 8:00 a.m. – 7:00 p.m. Eastern Time
Transition Period:	24 months, to be bundled with payroll and HRIS TSAs
Fee:	[TBD]
Seller Service Representative	Chad Graber
Company Service Representative	To be determined

030-BS: Retirement administration

TSA ID:	030-BS
Service:	Retirement Administration
Detail:	Service Description:
	Oversight of third-party administrator ("TPA") to include, but not limited to, eligibility, changes, terminations, and benefit deductions
	 Provide the capability to report employee participation in benefits programs Ad hoc knowledge transfer to support PPL with any retirement planning sessions facilitated for prospective retirees
	• Case management and analysis of employee questions/issues as escalated to National Grid by TPA
	• Review of post-employment benefit eligibility after employee has initiated the process with Pension Connect
	 Outreach to employee and supervisor/manager with application for retirement Sending of post-employment benefits package following receipt of completed application
	 Tracking of upcoming retirement and/or revocation to ensure for accurate and timely processing and subsequent pension benefit commencement Support TPA for processing disability retirements
	 Provide administrative support of retirement plans, including data entry in SAP, letters to employees, vendor relations, etc.
	Service Exclusions:
	• Above service descriptions applicable only to retirement plans still managed by National Grid and excludes any new retirement plans or vendor relationships set up by PPL
	 Facilitation or participation in any individual retirement meetings; questions are handled through case management to the designated subject matter expert and/or vendor
	• Facilitation or participation in any retirement planning sessions for prospective retirees <u>Hours of Operation</u> :
	 Support is available from Monday – Friday, 8:00 a.m. – 7:00 p.m. Eastern Standard Time
Transition Period:	24 months, to be bundled with payroll and HRIS TSAs
Fee:	[TBD]
Seller Service Representative	Chad Graber

031-BS: Time governance

TSA ID:	031-BS
Service:	Time Governance
Detail:	Service Description:
	 Time entry monitoring and adjustments prior to payroll processing including follow-up with timekeepers, employees and managers on unentered time and related issues to ensure time is validated and approved, and system issues (e.g., due to auto-populate, auto-approve, time transfer, inbound interfaces, audit checks) Provide guidance to timekeepers around schedules and pay, based on rules contained within union contracts Manage Car Allowance program for monthly management employees with third party vendor MOTUS, to the extent PPL will provide this program post-Closing <i>Service Exclusions</i>: None Hours of Operation: Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time
Transition Period:	24 month
Fee:	[TBD]
Seller Service	Ron Fasoldt
Representative	
Company Service Representative	To be determined

032-BS: Payroll processing

TSA ID:	032-BS
Service:	Payroll Processing
Detail:	 Service Description: Pay employees for time worked and other payments as defined in collective bargaining agreements and company policies consistent with current practice (e.g., weekly and monthly payroll cycles, treasury and ADP file transmissions) Withhold and remit voluntary and statutory tax and general deductions in accordance with company policy, tax and labor rules/laws Payroll processing various reimbursement programs and policies (e.g., tuition, adoption assistance) Limited off-cycle payroll processing consistent with current practice (e.g., Annual Performance Plan Awards and other large volume payments not to be included in regular payroll processing, balance adjustments, year-end adjustments) Provide the estimated tax withholdings so the broker knows how many shares to sell to cover the tax, as well as processing the actual taxable values through payroll once they vest. Service Exclusions: Pension payments Travel and expense reimbursements Payments to contractors Balance account reconciliations
	 Support is available from Monday – Thursday, 7:00 a.m. – 6:00 p.m., Friday, 7:00 a.m. – 5:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Ron Fasoldt
Company Service Representative	To be determined

033-BS: Period End Payroll Tax Forms Processing

TSA ID:	033-BS
Service:	Period Ending Payroll Tax Forms Processing
Detail:	Service Description:
	• Prepare and provide accurate tax filing documents (e.g., W-2, W-3) to employees and file with Social Security Administration in accordance with federal and state tax laws and deadlines (e.g., Form SSA) including quarterly tax filing reporting, reconciliations, submissions, and payments <u>Service Exclusions</u> :
	 1099 Forms for retired employees receiving pension payments from a third party or other non-employees Journal entries
	Hours of Operation:
	 Support is available from Monday – Thursday, 7:00 a.m. – 6:00 p.m., Friday, 7:00 a.m. – 5:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	[TBD]
Seller Service	Ron Fasoldt
Representative	
Company Service Representative	To be determined

Exhibit A Transition Services

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¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

SERVICE DESCRIPTIONS - FACILITIES (NARRAGANSETT ELECTRIC COMPANY)

045-FAC: REPAIR & MAINTENANCE, INTERNALLY MANAGED & THIRD-PARTY FACILITY MANAGEMENT PROVIDERS
046-FAC: MAILROOM SERVICES 5
124-FAC: MASSACHUSETTS AND NEW YORK OFFICES 6
125-FAC: MASSACHUSETTS OPERATIONS FACILITIES
126-FAC: MASSACHUSETTS WAREHOUSE FACILITIES
132-FAC: NORTHBORO CONTACT CENTER 9
133-FAC: TRAINING FACILITIES
134-FAC: RIGHT OF WAY AND SURVEY ENGINEERING11
135-FAC: CAPITAL PROJECT SUPPORT12

045-FAC: Repair & Maintenance, Internally Managed & Third-Party Facility Management Providers

TSA ID:	045-FAC
Service	Facilities Services: Repair & Maintenance, Internally Managed & Third-Party Facility Management Providers
Detail:	
	 Cumberland Operations (1595 Mendon Road) Lincoln (642 George Washington)

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	Transition Services
	Middletown (12 Turner Road)
	North Kingstown (4145 Quaker Road)
	Pawtucket (34 Roosevelt Ave)
	Providence – Allens Operations (642 Allens Ave)
	• Providence – Dexter (439 Dexter St)
	Providence – Melrose (280 Melrose St)
	Providence – Point Street
	• Scituate (Chopmist Hill Rd)
	• Westerly (69 Canal St)
	 Services will be provided in accordance with National Grid's existing Facilities Services contract schedules. Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	12 months
Fee:	[TBD]
Seller Service	Director, NE Property Services
Representative	VP, Finance, Regulatory Affairs & Controller
Company Service Representative	Director, Facilities Operations

046-FAC: Mailroom Services

TSA ID:	046-FAC
Service	Mailroom Services
Detail:	Pursuant to 001 - BS, 002- BS, 004 - BS, 008 - BS, National Grid's Customer Service and Credit and Collections (AMO) groups will continue to distribute select mailings to Narragansett Electric customers. National Grid will continue to provide mail services for these select mailings out of it's Northboro, MA, and Syracuse, NY facilities for the duration of 001 - BS, 002- BS, 004 - BS, 008 - BS.
Transition Period	24 months
Fee:	[TBD]
Seller Service	Director, NE Property Services
Representative	
Company Service	VP, Finance, Regulatory Affairs & Controller
Representative	Director, Facilities Operations

<u>124-FAC: Massachusetts and New York Offices</u>

TSA ID:	124-FAC
Service	Massachusetts and New York Offices
Detail:	ServCo back-office employees supporting Narragansett operate out of shared offices owned or leased by ServCo. These sites are not expected to transfer with the business. National Grid will provide space for Servco back-office employees to continue to be based in Massachusetts and New York facilities, while supporting Narragansett. Bundled services: • Bundling requirements will be shared as they are identified as
Transition Period	part of the service definition and refinement process underway
Fee:	[TBD]
Seller Service	Director, NE Property Services
Representative	
Company Service Representative	VP, Finance, Regulatory Affairs & Controller Director, Facilities Operations

125-FAC: Massachusetts Operations facilities

TSA ID:	125-FAC
Service	Massachusetts Operations Facilities
Detail:	National Grid will provide usage of the Gas and Electricity control center in Northboro, for Narraganset control center operations. Bundled services: • Bundling requirements will be shared as they are identified as
Transition Period	part of the service definition and refinement process underway 24 months
I ransition Period	24 monuis
Fee:	[TBD]
Seller Service	Director, NE Property Services
Representative	
Company Service	VP, Finance, Regulatory Affairs & Controller
Representative	Director, Facilities Operations

<u>126-FAC: Massachusetts Warehouse Facilities</u>

TSA ID:	126-FAC
Service	Massachusetts Warehouse Facilities
Detail:	 National Grid will provide usage of the Sutton warehouse facility for Narraganset warehousing: Provide the Purchaser with access to the entire parcel of the Sutton warehouse Provide congruent facility space in the Sutton Depot Storage Yard as currently provided Provide storage for materials currently in line with material requirements Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	12 months
Fee: Seller Service Representative	[TBD] Director, NE Property Services
Company Service Representative	VP, Finance, Regulatory Affairs & Controller Director, Facilities Operations

132-FAC: Northboro Contact Center

TSA ID:	132-FAC
Service	Northboro Contact Center
Detail:	National Grid will provide usage of the Customer contact center facility in Northboro for Narraganset call center activities, as currently provided. Bundled services: • Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director, NE Property Services
Company Service Representative	VP, Finance, Regulatory Affairs & Controller Director, Facilities Operations

<u>133-FAC: Training Facilities</u>

TSA ID:	133-FAC
Service	Training Facilities
Detail:	National Grid will provide usage of the Millbury training facility and all associated Electric and Gas equipment for Narragansett training activities, as currently provided. Bundled services: • Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director, NE Property Services
Company Service Representative	VP, Finance, Regulatory Affairs & Controller Director, Facilities Operations

<u>134-FAC: Right of Way and Survey Engineering</u>

TSA ID:	134-FAC
Service	Right of Way and Survey Engineering services as now supplemented by contract labor and internally managed.
Detail:	 National Grid will provide Right of Way (ROW) and Survey Engineering services to support customer & capital projects for electric Transmission & Distribution (Tx & Dist), electric Sub- Transmission (sub-Tx), and Gas. ROW services include: Acquiring and managing property rights Encroachment mitigation Applications for third party use Survey Engineering services include: Locating company rights and boundaries Providing existing condition surveys for permitting and design Construction support services Bundled services: Bundled services: Bundling requirements will be shared as they are identified as
Transition Period	 Building requirements will be shared as they are identified as part of the service definition and refinement process underway 18 months
Fee:	[TBD]
Seller Service	Director, ROW & Survey Engineering
Representative Company Service	Supervisor, Real Estate
Representative	Supervisor, Real Estate

<u>135-FAC: Capital Project Support</u>

TSA ID:	135-FAC
Service	Capital Project Support
Detail:	For capital projects, including but not limited to roofing, paving, kitchen, locker room and bathroom renovations, National Grid will continue to support delivery of these projects through planning, resourcing, implementation, controls and close out, as applicable, during the duration of the service. This will be applicable to the following sites in Narraganset territory that will continue to be directly serviced by National Grid facilities:
	 Lincoln (642 George Washington) Middletown (12 Turner Road) North Kingstown (4145 Quaker Road) Providence – Allens Operations (642 Allens Ave) Providence – Dexter (439 Dexter St) Providence – Melrose (280 Melrose St) Scituate (Chopmist Hill Rd) Westerly (69 Canal St)
	 Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	18 months
Fee:	[TBD]
Seller Service Representative	Director, NE Property Services
Company Service Representative	Manager, Design & Construction

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<u>SERVICE DESCRIPTIONS – FINANCE & ACCOUNTING (THE NARRAGANSETT</u> <u>ELECTRIC COMPANY)</u>

047-FIN ACCOUNTING AND FINANCIAL REPORTING	3
051A-FIN: MIDDLE OFFICE SUPPORT FOR GAS PROCUREMENT ACTIVI	TIES 5
051B-FIN: MIDDLE OFFICE SUPPORT FOR ELECTRIC PROCUREMENT ACTIVITIES	7
052-FIN: CLAIMS HANDLING/ INVESTIGATION	9
053-FIN: TAX CONSULTING SERVICES	
054-FIN: PROPERTY TAX SERVICES	
129-FIN: FINANCIAL PLANNING AND ANALYSIS	

047-FIN Accounting and financial reporting

TSA ID:	047-FIN
Service:	Accounting and Financial Reporting
Detail:	National Grid shall assist the Company in its preparation of monthly financial reports (including Energy Information Administration reporting) through provision of trial balance data. National Grid shall assist the Company in its preparation of quarterly US GAAP financial statements, FERC quarterly and supplemental filings and relevant State filings on the same schedule as such financial statements were prepared prior to Closing.
	Accounting services provided by National Grid will include reports from existing sub-ledgers and/or system interfaces in order to support existing activities (e.g., power plant sub-ledger and customer systems interfaces).
	National Grid shall continue to maintain records to account for the utility plant assets of the Company, and record additions, retirements and depreciation/amortization of such assets. National Grid shall provide the Company on a monthly basis the following schedules and/or reports:
	 Monthly reconciliation of fixed assets sub-ledger to the US general ledger Monthly spending, additions, retirements and depreciation/ amortization Capitalized interest monthly activity ARO liability report – a report identifying monthly activity related to asset retirement obligations National Grid will make accounting personnel available to respond to the Company's requests for accounting support, knowledge transfer and history related to the Company's Monthly Statements, as well as questions surrounding the accounting treatment for key or judgmental matters (e.g. bad debt, unbilled revenue, regulatory deferrals).
	For purposes of the required regulatory "make-whole" deferred tax calculation, National Grid will provide a forecast of book depreciation of property, plant and equipment included in rate base as of March 31, 2021, and an update to such as may be required by the regulator.

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Transition Services		
	Excluded Services:	
	The Company shall be solely responsible for purchase accounting, income tax entries, any adjustments required as a result of changes from National Grid's accounting policies and any Company specific entries. The Company shall also be solely responsible for any new financial/regulatory reporting requirements required by the Company to comply with its legal, regulatory, investor, and other obligations that National Grid was not required to comply with prior to the signing of the SPA. If assistance with the preparation of such materials is required of National Grid and/or its external advisors (i.e., its independent audit firm) during the Transition Period or beyond, such services will be negotiated separately between National Grid and the Company and the relevant external service providers. <u>Bundled services:</u> • Bundling requirements will be shared as they are identified as part	
	of the service definition and refinement process underway.	
Transition Period:	12 months	
Fee:	[TBD]	
Seller Service	New England Controller	
Representative:	Director Operational Finance	
Company Service	Corporate Controller	
Representative:	VP, Finance & Regulatory Affairs	

051a-FIN: Middle Office Support for Gas Procurement Activities

TSA ID:	051a-FIN
Service:	Middle Office Support for Gas Procurement Activities
Service: Detail:	 Middle Office Support for Gas Procurement Activities National Grid shall continue to provide middle-office compliance, risk management and data system support services related to the procurement of gas commodity. Middle-office services specifically relate to: Maintain energy risk data systems, tools, and related interfaces, including Allegro/Horizon, providing IT support and details of any significant changes made to the energy transaction risk management system/ interfaces for the following functionality: trade entry, confirmations, contract administration, credit operations, risk reporting, segregation of duties and access rights, gas scheduling, market prices, valuations, settlement, invoicing to SAP Deal Confirmations Regulatory Reporting FERC compliance monitoring Fixed price deal reporting to publications (FERC regulated), provided that PPL agrees to continuing this activity Credit support and analysis and reporting Independently verify hedging volumes Margining and collateral exchange, including receiving letters of credit and parent guarantees from counterparties Developing, verifying, and reporting on forward curves Market, Operational, and Credit Risk reporting, including VAR metrics and probabilistic analysis Monitor compliance with Delegation of Authority and approved Transaction Strategies Calculate incentives related to Gas Cost Volatility program Providing pricing information for Renewable Energy Certificates (RECs) Issuing weekly Rhode Island Natural Gas, Power, and Credit Risk Reports
	 Performing quarter-end financial GAAP valuations and reporting activities <u>Bundled services:</u>
	Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months

Fee:[TBD]Seller Service
Representative:Director, Energy Procurement Risk ManagementCompany Service
Representative:Senior Director, Risk Management

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051b-FIN: Middle Office Support for Electric Procurement Activities

TSA ID:	051b-FIN
Service:	Middle Office Support for Electric Procurement Activities
Detail:	 National Grid shall continue to provide middle-office compliance, risk management and data system support services related to the procurement of electric commodity. Middle-office services specifically relate to: Maintain Energy Transaction risk management system (Allegro / Horizon), providing IT support for the following functionality: trade entry, confirmations, segregation of duties and access rights, market prices, valuations, settlement, invoicing to SAP
	 Negotiating base commodity contracts: ISDAs, MPAs, and Master Certificate Purchase/Sale agreements Deal Confirmations (Financial Deals, RECs, and Capacity Deals) Provide pricing for RECs for quarter end reporting Credit support and analysis and reporting Monitor Load Bid Performance Metric Margining and collateral exchange, including receiving letters of credit and parent guarantees from counterparties Developing and reporting on forward curves Mark-to-market valuation and reporting Market, Operational, and Credit Risks reporting, including VAR metrics and probabilistic analysis Monitor compliance with Delegation of Authority and approved Transaction Strategies Upload power volumes to Adapt2 and facilitate settlement in Allegro Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Director, Energy Procurement Risk Management
Company Service Representative:	Supervisor, Load, Scheduling & Settlement Manager, Regulatory Accounting Manager, Financial Planning & Analysis

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051c-FIN: Back Office Support for Energy Procurement Activities

TSA ID:	051c-FIN
Service:	Back-Office Support for Energy Procurement Activities
Detail:	 National Grid shall continue to provide back-office compliance and accounting services related to the procurement of gas and electric commodity. Back-office services specifically relate to: Settlement of electric and gas transactions
	 Producing and reconciling invoices, and sending them to SAP Renewable energy credit accounting Monthly journal entries, including those related to accounts
	 payable, accounts receivable, gas storage and National Grid Natural Gas Portfolio Earnings Plan (NGPMP) Executing Internal Financial Controls related to electric and gas
	 Executing internal r material controls related to electric and gas commodity Account reconciliations for gas storage and energy use Liaison with external auditor
	 External reporting including State page reporting and quarterly 552 annual filings and annual 549D quarterly filings. Internal financial reporting on energy expense and revenue Gas Operations and Electric Operations leaders and Energy Procurement team.
	Internal financial reporting on energy expense and revenue to Gas Operations and Electric Operations leaders and Energy Procurement team.
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Accounting Manager, Energy Procurement
Company Service Representative:	Supervisor, Load Scheduling & Settlement
	Manager, Regulatory Accounting
	Manager, Financial Planning & Analysis

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052-FIN: Claims Handling/ Investigation

TSA ID:	052-FIN
Service:	Claims Handling/Investigation
Detail:	With respect to claims handling services:
	 The Company will assume responsibility for all existing and future claims matters as of Closing. National Grid shall provide the Company with claims handling and claims investigation support services in a manner consistent with National Grid's current processes for the provision of such services prior to Closing During the TSA period, National Grid will investigate, adjust and resolve all claims in consultation with, and as advised by, the Company. The Company will make available to National Grid, all employees, (management, contracted or represented) and internal records required to address, investigate, adjust and/or defend all claims against the Company. National Grid will work with the Company to provide the necessary information that will allow the Company to evaluate and resolve claims matters as required by the Company to evaluate and resolve claims matters as required by the Company's policies.
	With respect to litigation services:
	 The Company will assume responsibility for all existing and future litigated matters as of Closing. National Grid will send new litigation to the Company upon receipt, as of Closing. National Grid shall provide the Company with litigation support services in a manner consistent with National Grid's current processes for the provision of such services prior to Closing. The Company will advise National Grid as to defense, coverage and all legal counsel required in the consultation, adjustment and/or adjudication of all litigated matters. National Grid will work with the Company to provide the necessary information that will allow the Company to set reserves as required by the Company's policies. National Grid will work with the Company to evaluate and resolve litigation matters as required by the Company's policies.

Exhibit A **Transition Services**

	 <u>Excluded Services</u>: Legal services <u>Bundled services:</u>
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	12 months
Fee:	[TBD]
Seller Service	Director, Claims
Representative:	
Company Service	Chief Counsel
Representative:	Senior Counsel

053-FIN: Tax Consulting Services

TSA ID:	053-FIN
Service:	Tax Consulting Services
Detail:	National Grid will make its tax personnel available to the Company to respond to the Company's questions regarding pre-closing tax matters. Nothing herein shall be construed as imposing any obligation on the Seller to provide tax compliance or advice to the Company.
	National Grid will provide informal training to the Company's employees assigned to perform taxation services as is reasonably requested by the Company, in particular, process walk-throughs and explanation of business process inputs and outputs and any other activities during the applicable transition period for the Transition Service being provided.
	National Grid shall assist the Company in its preparation and payment of all monthly, quarterly and annual sales, use and gross receipts tax returns and/or estimated payments in the same fashion as National Grid currently does in its outsourced arrangement with KPMG for the provision of these services.
	National Grid will make its staff available to respond to the Company's staff on all income tax accounting and compliance matters, in particular including questions regarding the application of federal tax law and regulation and also the application of ASC740 related to accounting for income taxes. Note that the State of Rhode Island does not impose an income tax on the Company.
	National Grid will provide the Company support in determining the appropriate make-whole provision including specifically a forecast of remaining book and tax depreciation. In addition, National Grid will provide the Company with schedules showing the expected utilization/amortization of protected and unprotected excess accumulated depreciation.
	For purposes of the required regulatory "make-whole" deferred tax calculation, National Grid will provide a forecast of tax depreciation of property, plant and equipment included in rate base, and an update to such as may be required by the regulator. In addition, National Grid will provide a comparison of the forecast of book deprecation to tax depreciation and create a schedule of the expected reversal of deferred taxes.

Exhibit A **Transition Services**

	 <u>Bundled services:</u> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fees:	[TBD]
Seller Service Representative:	Vice President, Tax
Company Service Representative:	Vice President, Tax

054-FIN: Property Tax Services

TSA ID:	054-FIN
Service:	Property Tax Services
Detail:	National Grid shall assist the Company in its preparation and payment of all quarterly property tax bills. Accounting services provided by National Grid will include reports from existing sub-ledgers and/or system interfaces in order to support existing activities (e.g., power plant sub-ledger and SAP systems interfaces).
	National Grid through its plant accounting system shall maintain records necessary to account for the utility plant assets of the Company in preparation for the Annual Report of Tangible Personal Property for submission to the local municipalities.
	National Grid will make its staff available to respond to the Company's property tax staff on all ad valorem tax matters, in particular, including questions regarding the preparation and submission to state and local assessment agencies and information necessary to evaluate potential property tax appeal candidates.
	National Grid will provide access to its files pertaining to previous and current litigation on legal property tax matters.
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Manager, Property Tax
Company Service Representative:	Supervisor, Real Estate & Property Tax

129-FIN: Financial Planning and Analysis

Service:	Financial Planning and Analysis
Detail:	National Grid will support the Company with monthly and quarterly reporting decision support and reporting activities (e.g., budgeting, forecasting and long-term planning) at an operating company level, this includes:
	 Net margin calculations and analysis Direct cost decision and reporting support Rate base calculations and analysis Return on Equity (finance/ regulatory return)
	National Grid will support the Company with existing finance business partnering activities covering:
	 Storm support (1) partnering during a storm event including financial modelling (2) supporting regulatory storm filings Work plan (opex/ capex) and regulatory filing development, allocation and budgeting and forecasting Rate case modeling (subject to case timeline)
	National Grid will support knowledge transfer to the Company's employees assigned to perform the financial planning and analysis services listed within this Transition Service schedule as requested by the Company.
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	12 months
Fee:	[TBD]
Seller Service Representative:	New England Controller
Company Service Representative:	Manager, Financial Planning and Analysis

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SERVICE DESCRIPTIONS - HR

118-HR: Labour and Employee Relations	3
119-HR: Regulatory Training	5
122-HR: Workforce Planning and People Analytics	6
123-HR: Talent Management	7

118-HR: Labour and Employee Relations

TSA ID	118-HR
Service:	Labour and Employee Relations
Detail:	 Service Description: Provide ad hoc support and/or advice relating to contract interpretation for Local 310 (400 employees), Local 310b (c. 70 employees), and Local 12431 (292 employees). Provide PPL any historical information / investigative documentation that they do not have access to in the efforts to resolve any formal grievances or arbitrations that remain unresolved as of the Close date or arise thereafter but relate to events occurring before the Close date. This support may consist of a briefing call with a National Grid labor partner but shall not involve making recommendations or drafting of documentation. Include access to all historical documents in accordance with the recordkeeping TSA XX-01, provide access to historical documents, including in excel/shared drive, and offsite, active discipline, grievances, CBAs and MOUs in Iron Mountain, arbitration decisions, and settlement and interim agreements. Service Exclusions: All other labor relations support to be assumed by Buyer at Close including, but not limited to the negotiation process or establishment of new contracts for Local 310, Local 310b, and local 12431

	CORPORATION, PPL RHODE ISLAND HOLDIN NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC C PUBLIC Exhibit A Transition Services	OMPANY 0. D-21-09
	 Support for new grievances, arbitration, investigations for employee misconduct, performance, or policy violations after Close date 	
	 Knowledge transfer post-Close 	
	<u>Hours of operation:</u> • Support is available from Monday – Friday, 7:00 a.m. – 6:00 p.m. Eastern Standard Time	
Transition Period:	6 -12 months – Pending and dependent on the Payroll / ERP Duration Decision	
Fee:	Allocated Costs plus Direct Charges	
Seller Service Representative	Maria Marotta	
Company Service Representative	Kurt Reidinger	

119-HR: Regulatory Training

TSA ID	119-HR
Service:	Training (Regulatory, Compliance and Technical)
Detail:	Service Description:
	 Provide access to regulatory, compliance and technical training materials and platforms including in-person and web-based <i>regulatory, compliance and technical</i> training delivery, administration, and tracking consistent with current practices. Continue to maintain regulatory, compliance and technical training content, data, and assignments. Support the facilitation/maintenance of training facilities, fleet, materials, equipment, tools and IT support Provide instructor led trainings and they will be delivered through both NG and PPL instructors to accommodate said instructor related ratio regulations Provide security measures for PPL instructors and PPL employees that will be utilizing the training facilities Provide support for any new Operator Qualifications mandates within the RI territory
	 Rover-specific training development, delivery and or tracking supported by conveying Training FTEs within the buyer's Learning Management System. Leadership training, ethics training or content, professional development, leadership and capability training Product specific training requirements (e.g. Gas operations, Electricity operations, etc.) Training facilities access
	Hours of operation:
	 Support is available from Monday – Friday, 7:00 a.m. – 4:00 p.m. Eastern Standard Time
Transition Period:	24 months or at an earlier date at the time of PPL training facilities set
	up and the PPL LMS for RI employees
Fee:	Allocated Costs plus Direct Charges
Seller Service Representative	Margaret Jones
Company Service Representative	Steve Phillips, Paul Ward

122-HR: Workforce Planning and People Analytics

TSA ID	122-HR
Service:	Workforce Planning and People Analytics
Detail:	Service Description:
	 Provide standard PowerBI reporting publications, based exclusively upon data and organizational hierarchies within MyHub, on a quarterly basis. Standard reports to include summary level data and views for workforce planning reporting
	 Provide flat file for all data to allow PPL to run their own analysis
	Service Exclusions:
	 Reporting of workforce data which does not reside within MyHub
	 Workforce reporting where a unique identifier of conveyed employees does not exist
	 Non-employee Managed Service Provider reporting
	 Direct access to PowerBI environment or any data files allowing user manipulation, calculations or formulas, or technical components which feed and enable PowerBI products
	 Initial source data files
	 Strategic planning support
	 Data analysis
	Hours of operation:
	 Support is available from Monday – Friday, 9:00 a.m. – 5:00 p.m. Eastern Standard Time
Transition Period:	24 months (quarterly reporting)
Fee:	Allocated Costs plus Direct Charges
Seller Service Representative	Gary Dionne
Company Service Representative	To be confirmed

123-HR: Talent Management

TSA ID	123-HR
Service:	Talent Management
Detail:	Service Description:
	 Ad hoc provision of limited advice / knowledge transfer to Rover for Talent processes
	 Ad hoc reporting needs (based on standard reporting templates) to the extent not covered by 024-BS: HRIS – Reporting TSA schedule
	 Provide access to 360 Assessments, conducted by K. Ferry
	Service Exclusions:
	 Identification of key leadership requirements and the associated leadership development
	 Succession planning and talent review Diversity and inclusion processes
	Hours of operation:
	 Support is available from Monday – Friday, 9:00 a.m. – 5:00 p.m. Eastern Standard Time
Transition Period:	24 months
Fee:	Allocated Costs plus Direct Charges
Seller Service	Catherine Schlieben
Representative	Sarah Hynes
Company Service	To be confirmed
Representative	

Exhibit A Transition Services

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Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event that such information becomes inaccurate.

This Exhibit A to the draft Transition Services Agreement has been prepared solely for informational purposes only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Exhibit A to the draft Transition Services Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require.

For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to "bundle" services where required for operational purposes, e.g., where services are coterminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Exhibit A to the draft Transition Services Agreement contains material, non-public information concerning National Grid and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among National Grid, National Grid plc and PPL Corporation. The Recipient acknowledges that National Grid considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS – HEALTH & SAFETY, MONITORING & COMPLIANCE</u> (NARRAGANSETT ELECTRIC COMPANY)

055-HSE: HEALTH, SAFETY, ENVIRONMENT (HS&E) AND SECURIT REGULATORY MONITORING, REPORTING, AND COMPLIANCE C	,
SERVICES	
059-HSE: SITE INVESTIGATION AND REMEDIATION (SIR)	6
060-HSE: ENVIRONMENTAL FIELD SUPPORT	
061-HSE: SPILL CONTROL/ RESPONSE	
062-HSE: PUC ENVIRONMENTAL FILING SUPPORT	
063-HSE: LICENSES, PERMITS AND ORDERS	
064-HSE: SITE SECURITY SERVICES	
130-HSE: HEALTH SERVICES	
131-HSE: SAFETY POLICY & PROGRAMS	

<u>055-HSE: Health, Safety, Environment (HS&E) and Security, Regulatory Monitoring,</u> <u>Reporting, and Compliance Consulting Services</u>

TSA ID:	055-HSE
Service	Health, Safety, Environment (HS&E) and Security, Regulatory
HS&E	Monitoring, Reporting, and Compliance Consulting Services
Detail:	National Grid will make its personnel available to the Company to
	respond to questions regarding federal, state, and local and
	regulatory HS&E issues applicable to the Company and its business.
	National Grid will provide informal training to the Company's
	employees responsible for such HS&E related report filings
	including training at National Grid's offices, process walkthroughs
	and explanations of business process inputs and outputs, and any
	other related activities prior to and during the applicable reporting
	period. This will include but is not limited to Rhode Island
	regulatory filings, prepare OSHA annual 300 and 300A filings,
	benchmarking reporting, DOT reporting, environmental related SEC
	10Q/10K reporting and Asset Retirement Obligations (ARO)
	reporting.
	National Grid will continue to maintain and update official HS&E
	Policies and Procedures as would be required prior to Closing.
	National Grid will provide advice to the Company to develop the medical screening programs under DOT and Occupational Safety and Health Administration (OSHA), including Fitness for Duty and the Drug and Alcohol Programs. National Grid will assist the Company to file with the relevant regulatory agencies any required documents under those programs. Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service	VP, HSE New England
Representative	
Company Service	Director, Technical Development & Improvement
Representative	

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056-HSE: Field Safety Support

TSA ID:	056-HSE Field Safety
Service	Field Safety Support
Detail:	 If requested, National Grid will assist the Company with its management of safety issues in the field, in particular: FS - Safety Observations - Provide consultation on a variety of safety performance tasks / activities across the business through safety observations. These observations are logged within our IMS system and are documented as an ESD (Effective Safety Discussions) or CA (Compliance Assessment) FS - 2nd Level Assurance - Provide consultation on second level assurance in line with departmental risk registers on a quarterly basis. FS - Respond to Safety Incidents – If requested, advise on incidents in the field to assist partners in making situation safe, advise on information gathering and determining actions to be taken to make safe and next steps FS - Incident Analysis – Provide consultation on incident investigation teams as SMEs. Key functions are to advise on root cause analysis, actions to be taken and lessons learned; advise as SME in TapRoot tool HASPs – Act as consultative support for partners on Health & Safety Plans OSHA / Regulatory Compliance – Advise on any pending OSHA or regulatory compliance cases; SME to advise partners, advise on incidents / investigations through OSHA and other regulatory agencies FS - Storm Support – Advise any storm support personnel for Operations as well as information for on-boarding of Electric Business Unit external contractors when reporting for storm duty FS - Safety Committee Support – Advise any SPCs (Safety Performance Committees) which support collaboration with

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Exhibit A Transition Services

	 our union workforce in an effort to improve safety performance, communication and awareness FS - SME for Policy & Procedures – Provide advice and guidance with regards to internal safety policy and procedures as well as external compliance with OSHA and other regulatory agencies. Additionally, will provide consultation with Operations policies and procedures for input and guidance as they relate to safety FS – Communication Channel - Consult on safety information, addressing routine and time-critical safety information FS – Training – Provide consultation on education and training as needed for programs and/or regulatory mandates (Silica, Hearing Protection, Rubber Glove Program as examples) FS – Safety Support - Advise on programs and initiatives aimed at incident prevention and performance improvements Process Safety – If requested, assist various process safety risk
	 as needed for programs and/or regulatory mandates (Silica, Hearing Protection, Rubber Glove Program as examples) FS – Safety Support - Advise on programs and initiatives
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director Field Safety
Company Service Representative	Manager, Safety

059-HSE: Site Investigation and Remediation (SIR)

TSA ID:	059-HSE
Service:	Site Investigation and Remediation (SIR)
Detail:	Technical and Project Management Support: National Grid will provide consultation to the Company on SIR projects, in particular Manufactured Gas Plant site and PCB related investigation and remediation. National Grid will make its personnel available to the Company to respond to questions from the Company regarding environmental data systems, historical and location specific information, and records relevant to the Company.
	If requested by Company, National Grid will provide consulting services to the Company in establishing annual project budgets, preparing regular financial and reserve (contingency) fund forecasts, assisting with the annual rate filings (The Narragansett Electric Company d/b/a National Grid Electric Environmental Response Cost Report and Annual Environmental Report for Gas Service), including assistance with preparing written reports and/or information for testimony, and conducting periodic site inspections including but not limited to the minimum frequency as specified by local, state and federal regulations, orders, decrees or agreements. If requested, National Grid will provide consulting services in support of response to any public complaints, and/or in response to incidents at the site involving an agency-reportable release or activity.
	National Grid will make available environmental staff and subject matter experts to the Company for consultation on environmental planning and management issues related to the Company.
	 Contractor Administration: If contracts have been moved to Company, Company will administer the contracts. If contracts have not been moved to Company, National Grid will assist the Company with contract administration activities as requested, in particular: Management and coordination with third-party environmental consultants supporting MGP site investigation, remediation, and monitoring
	Development of work plans for site investigations, risk characterizations, remedial action plans, remedy

Exhibit A Transition Services

	 implementation plans, construction specifications and project closures Evaluation of proposed project work scopes for reasonableness in meeting project and regulatory objectives Assessment of proposed and/or invoices consultant costs for reasonableness Evaluation of contractor proposal documentation (including technical and financial aspects) and proposed field change orders to assess if cost are reasonable National Grid will provide guidance to the Company's legal counsel, as required. Regulatory Support and Public Interface: If requested, National Grid will provide consulting to Company on matters involving interaction with local, state and federal regulators; conduct and/or present at public meetings in connection with SIR projects. Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative	Director, New England Compliance/Licensing and Permitting/SIR
Company Service Representative	Manager, Environmental Compliance

060-HSE: Environmental Field Support

TSA ID:	060-HSE
Service:	Environmental Field Support
Detail:	 If requested, National Grid will continue to provide the Company with environmental management consulting services related to: Site investigations Environmental complaint investigation and management, including remediation of environmental non-compliance findings and 3rd party property damage in resource areas Avian protection including avian mortality and incident tracking, required reporting, and interface with the regulatory agencies. Air emissions management and reporting Pollution prevention If contracts have been moved to Company, Company will manage activities primarily provided through contractors. If contracts have not been moved to Company, National Grid will assist the Company with management of the following activities: Property due diligence, including All Appropriate Inquiries (AAI), Phase I and Phase II Environmental Assessments Solid and hazardous waste management including but not limited to, proper chain of custody and management of contaminated fill/soils Water and wetlands protection including operations and maintenance related to natural resource mitigation sites, natural resource(s) permits and approvals, environmental studies, and protection of endangered and threatened species Permit application and compliance including contract and management of engineering and environmental contractors performing permit application development and support services Environmental inspection during construction Post-construction stormwater management (PCSM) Regulated storage tank management Recycling management including but not limited to recycling services during both operations and construction

	If requested, National Grid will provide consultation services related
	to inspection of operating facilities and major construction projects to
	evaluate compliance with various environmental requirements at a
	minimum frequency as required by law, regulation, permit,
	agreement, order, decree, and/or agency request; and as reasonably
	requested by the Company. If requested, National Grid will assist the
	Company with Environmental Compliance Assurance Program
	(ECAP) for the applicable service period for such Transition Service
	set forth on this Exhibit A.
	Bundled services:
	• Bundling requirements will be shared as they are identified as
	part of the service definition and refinement process underway
Transition Period:	24 months
Fee:	[TBD]
Seller Service	Director, New England Compliance / Licensing and Permitting / SIR
Representative	
Company Service	Manager of Environmental Compliance
Representative	

<u>061-HSE: Spill Control/Response</u>

TSA ID:	061-HSE
Service:	Spill Planning/Control/Response
Detail:	 If contracts have been moved to Company, Company will manage spill planning / control / response activities primarily provided through contractors. If contracts have not been moved to Company, National Grid will manage, develop, update and execute Facility Spill Prevention Control and Countermeasures (SPCC) and other spill contingency plans, manage spill and incident response for the Company, perform and coordinate necessary clean-up activities in the event of a spill, contract with an emergency spill response contractor, and conduct all necessary agency interface and reporting in the event of a reportable release or spill event. <i>Bundled services:</i> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director, New England Compliance / Licensing and Permitting / SIR
Company Service Representative	Manager of Environmental Compliance

<u>062-HSE: PUC Environmental Filing Support</u>

TSA ID:	062-HSE
Service	PUC Environmental Filing Support
Detail:	 National Grid will provide reasonable assistance to the Company in connection with any PUC proceedings pending as of Deal Close, including assistance with preparing written reports and/or information for testimony and assisting with the preparation of required filings. <i>Bundled services:</i> Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service	
Representative	Director, New England Compliance / Licensing and Permitting / SIR
Company Service	Manager of Environmental Compliance
Representative	

<u>063-HSE: Licenses, permits and orders</u>

TSA ID:	063-HSE
Service:	Environmental Licenses, Permits and Orders
Detail:	If requested, National Grid will provide consulting services to the Company for services relevant to the Company's compliance with existing local, state, and federal environmental licenses, permits, agreements, decrees and orders, including the renewal of licenses and permits.
	National Grid will provide support to the Company's representatives to complete the transfer of any required operating licenses, permits and orders for the Company's business.
	If contracts have been moved to Company, Company will manage licensing and permitting activities primarily provided through contractors. If contracts have not been moved to Company, National Grid will continue to provide local, state, and federal permitting and licensing activities required by the Company related to existing operations (in particular licensing and permitting for capital projects of the Company, e.g., EPA, RIDEM).
	The Company will be responsible for compliance with all licenses, permits and orders for the Company's business.
	 Bundled services: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director, New England Compliance / Licensing and Permitting / SIR
Company Service Representative	Manager of Environmental Compliance

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064-HSE: Site Security Services

TSA ID:	064-HSE
Service Security	Site Security Services
Detail:	National Grid will support the continued operations of the Company's business under existing security clearance systems and procedures, the restriction of access to Company facilities to authorized individuals, maintaining infrastructure support for video security and card key access. To the extent possible, National Grid will provide site monitoring for the Company's facilities consistent with the support provided prior to Deal Close.
	 Security services will include the provision of the following activities: Provide security control, monitor and log services for sites currently monitored in the Security Control Center Coordinate security communication and response services Provide the Company with access to National Grid's facilities, as requested Provision site security access cards as needed Perform annual critical-site vulnerability inspections Manage contract guard service agreements Provide regulatory activities and audits surrounding monitoring, training, annual maintenance and compliance with respect to latest North American Electric Reliability Corporation (NERC), Pipeline and Hazardous Materials Safety Administration (PHMSA), Chemical Facilities Antiterrorism Standards (CFATS) and other security regulations Control, monitor and log access as per NERC CIP 006 and NERC CIP 14 as applicable Manage, update and issue security services manuals and other written security procedures Respond to security incidents through surveillance, notify the Company's Corporate Security team, and contact law

Transition Services	
	• Provide training and certifications as needed, including DOT training and certifications required by the Pipeline and Hazardous Materials Safety Administration (PHMSA)
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director of US Physical Security
Company Service Representative	Chief Physical Security Officer

<u>130-HSE: Health Services</u>

TSA ID:	130-HSE: Health Services
Service Security	Health Services
Detail:	 National Grid will assist the Company with its management of health services, including in particular: Drug & Alcohol programs, testing, administration, and compliance, Absence (disability) management, Rhode Island TDI, fitness for duty exams, sick leave calculations, ADA compliance, & case management Occupational injury and illness - individual claims Self-insurance – workers compensation, reports & assessments to state agencies, case management Pre-employment / internal transfers – DOT driver, fit testing (fitness for duty) Annual medical screening and records Well-being – injury prevention, manage athletic trainer network, nutritional well-being, flu shots, wellness policies and programs Employee assistance programs – work/life balance counseling referrals, case management , grief counseling, policies, contracts, and vendor oversight COVID-19 program management – contact tracing, symptom checks, facility access requests, PPE compliance
Transition Period	24 months
Fee:	[TBD]
Seller Service Representative	Director, Health & Wellbeing

Company Service	Manager, Health Services
Representative	

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<u>131-HSE: Safety Policy & Programs</u>

 for the following activities: Safety governance structure and processes Key safety initiatives Industrial hygiene (IH), including informing on current IH monitoring activities or studies Safety training and driving training program and materials 	SA ID:	D: 131-HSE: Safety Policy & Programs
 management of HSE policy and programs by providing consultation for the following activities: Safety governance structure and processes Key safety initiatives Industrial hygiene (IH), including informing on current IH monitoring activities or studies Safety training and driving training program and materials 		
 management system (ISO 45001 assessment) External safety public awareness Benchmarking (data management and processes) and safet culture survey process Oversight to DOT compliance requirements for licensing monitoring, Driver Qualification Profile (DQP) Manage and maintain essential PPE catalogue Safety Policy and Procedures Management, including maintenance of the Safety Handbook Material Data Sheet management Safety Communication processes Maintain data and administration of HSE related systems, such as Incident Management System (IMS) processing ar reporting Contractor safety services, including the management of ISNetwor services 	etail:	 management of HSE policy and programs by providing consultation for the following activities: Safety governance structure and processes Key safety initiatives Industrial hygiene (IH), including informing on current IH monitoring activities or studies Safety training and driving training program and materials Risk register and compliance requirements, Safety management system (ISO 45001 assessment) External safety public awareness Benchmarking (data management and processes) and safety culture survey process Oversight to DOT compliance requirements for licensing monitoring, Driver Qualification Profile (DQP) Manage and maintain essential PPE catalogue Safety Policy and Procedures Management, including maintenance of the Safety Handbook Material Data Sheet management Safety Communication processes Maintain data and administration of HSE related systems, such as Incident Management System (IMS) processing and reporting Contractor safety services, including the management of ISNetworld services Bundling requirements will be shared as they are identified

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Transition Period24 monthsFee:[TBD]Seller Service
RepresentativeDirector, Policy & ProgramsCompany Service
RepresentativeManager, Safety

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Exhibit A Transition Services

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¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS - REGULATORY (THE NARRAGANSETT ELECTRIC</u> <u>COMPANY)</u>

065-REG: REGULATORY SUPPORT – GENERAL	3
066-REG: REGULATORY SUPPORT – REPORTING AND FILINGS – ELECTRIC &	
GAS DISTRIBUTION	5
067-REG: REGULATORY SUPPORT – REPORTING AND FILINGS –	
TRANSMISSION	7
136-REG: REGULATORY SUPPORT – NEW ENGLAND POWER COMPANY	
SERVICES ON BEHALF OF NECO – TRANSMISSION	9
137-REG: REGULATORY SUPPORT – STAKEHOLDER GROUP PARTICIPATION –	
TRANSMISSION1	1

<u>065-REG: Regulatory support – General</u>

TSA ID:	065-REG
Service:	Regulatory Support - General
Detail:	National Grid and the Company shall each designate a coordinator for the regulatory support services, who shall act as principal points of contact for any matters regarding National Grid's regulatory representation of the Company.
	 If requested by the Company, National Grid shall provide regulatory support services including: Tariff development, maintenance, and administration Assisting with responses to inquiries / information requests from regulators Consulting generally on regulatory issues
	In connection, National Grid shall also support the Company in proceedings, technical sessions, or working group meetings, before the RIPUC (Rhode Island Public Utilities Commission), RI Division or OER (Office of Energy Resources), NEPOOL, ISO- NE, and FERC.
	If requested by the Company, National Grid's regulatory representatives shall participate with the Company's regulatory representatives on conference calls and at meetings with regulators. Should the Company request National Grid to represent it at a regulatory meeting or call, National Grid's regulatory personnel will coordinate with the Company with regard to the positions to be taken and the decision and/or votes to be made on behalf of the Company. For the avoidance of doubt, whilst National Grid may take certain positions and vote on behalf of the Company, any such positions and votes will be pre- determined by the Company, who will make its regulatory representatives available to attend such meetings or calls with National Grid. Any Seller's employee representing the Company in any regulatory meeting will clearly identify themselves as representing the Company. National Grid's employees providing regulatory support shall take any action that may be necessary or appropriate from time to time to avoid actual or apparent conflicts of interest.
	<u>Bundled Services</u> : Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Docket No. D-21-09 Attachment NG-DIV 7-36-2-13 Page 4 of 12

Exhibit A **Transition Services**

Transition Period:	12 months
Fee:	[TBD]
Seller Service	Vice President Regulation and Pricing, New England
Representative	
Company Service	Director, Regulatory Affairs
Representative	Director, Distribution Asset Management and Engineering

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<u>066-REG: Regulatory Support – Reporting and Filings – Electric & Gas</u> <u>Distribution</u>

TSA ID:	066-REG
Service:	Regulatory Support – Reporting and Filings – Electric & Gas Distribution
Detail:	If requested by the Company, National Grid will provide consultation regarding prior Company base rate cases and settlements that are the basis for current cost recovery embedded in base rates. National Grid will not be responsible for preparation of any general base rate case, advanced metering or grid modernization filings including, but not limited to, revenue requirements, allocated costs of service and rate design, rate tariffs or testimony. The Seller may provide support for these filings as outlined below.
	Prior to Completion, the parties shall develop a list of the filings that the Company may require assistance from National Grid in preparing. Seller's assistance will consist of the same services that National Grid had provided prior to Closing in support of those agreed filings/reports; provided, however, the Company will be fully accountable for filing all required reports or filings following the Closing. As long as National Grid is maintaining the underlying/supporting data, National Grid will assist with the preparation of and support agreed filings/reports that require such data. For reports or filings filed annually or semi-annually, National Grid may be requested to provide advice and consultation in support of the Company's first filing in each category after Closing. For reports or filings made quarterly, monthly or on an ad hoc basis, National Grid may be requested to provide advice and consultation in support of those filings or reports for the first twelve months after Closing. In all cases, the Company will provide National Grid with 60 days' notice of the request to National Grid will not testify to any filings that it has not prepared in full. National Grid will not be required to provide support for any type of filing it has not prepared and filed prior to Closing. In addition to filings/reports, and except as otherwise stated above, National Grid will continue to provide support services for dockets, which are pending or under appeal at the time of Closing and for which Seller made the initial filing prior to Closing; provided, however, the Company will be fully accountable for those dockets following the Closing.

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	In addition, National Grid shall make its personnel reasonably available to provide consulting services, at the Company's request, in support of reports or filings of the Company required by any local, state, and federal authorities or regulators for the transition period. The consulting services will be limited to reports or filings that National Grid would have supported if National Grid still owned the Company. <u>Bundled Services</u> : Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	12 months
Fee:	[TBD]
Seller Service	Vice President Regulation and Pricing, New England
Representative	
Company Service	Director, Regulatory Affairs
Representative	

067-REG: Regulatory Support – Reporting and Filings – Transmission

067-REG
Regulatory Support – Reporting and Filings – Transmission
If requested by the Company, National Grid will provide consultation regarding prior Company transmission formula rate filings and FERC proceedings. National Grid will not be responsible for preparation of any general base rate case, new formula rate files, or new intercompany transmission / distribution arrangements for the Company including but not limited to, revenue requirements, allocated costs of service and rate design, rate tariffs or testimony.
Prior to Completion, the parties shall develop a list of the filings that the Company may require assistance from National Grid in preparing. As long as National Grid is maintaining the underlying/supporting data, National Grid will assist with the preparation of and support agreed filings/reports that require such data. For reports or filings filed annually or semi-annually, National Grid may be requested to prepare the first filing in each category after Closing, after which National Grid's support shall consist of advice and consultation in support of the Company's filing of such report or filing. For reports or filings made quarterly, monthly or on an ad hoc basis, National Grid may be requested to prepare those filings or reports for the first six months. In all cases, the Company will provide National Grid with 60 days' notice of the request to National Grid to prepare filings. National Grid will not testify to any filings that it has not prepared in full. National Grid will not be required to prepare any type of filing it has not prepared and filed prior to Closing.
 In addition, National Grid shall make its personnel reasonably available to provide consulting services, at the Company's request, in support of reports or filings of the Company required by any local, state, and federal authorities or regulators for the transition period. The consulting services will be limited to reports or filings that National Grid would have supported if National Grid still owned the Company's electric transmission assets. <u>Bundled Services</u>: Bundling requirements will be shared as they are identified as part of the service definition and refinement process

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment NG-DIV 7-36-2-13 **Exhibit A** Page 8 of 12 **Transition Services**

Transition Period: 12 months Fee: [TBD] Seller Service Vice President Regulation and Pricing, New England Representative Director, Regulatory Affairs Representative Director, Regulatory Affairs Manager, PJM and Federal Regulatory Affairs

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<u>136-REG: Regulatory Support – New England Power Company Services on Behalf</u> <u>of NECO – Transmission</u>

TSA ID:	136-REG
Service:	Regulatory Support – New England Power Company Services on Behalf of NECO – Transmission
Detail:	Prior to the FERC approved effective date of applicable new FERC jurisdictional tariffs and agreements of the Company related to NECO's transmission assets, National Grid's affiliate, New England Power Company (NEP), will continue to provide services to NECO pursuant to all effective FERC jurisdictional tariffs and agreements of NEP and NECO including, but not limited to, the Integrated Facilities Agreement in NEP Tariff No. 1. Prior to the effective date of applicable new FERC jurisdictional tariffs and agreements of the Company related to NECO, National Grid's regulatory personnel will coordinate with the Company with regard to all regulatory filings and decisions related to all effective FERC jurisdictional tariffs and agreements that relate to NECO, but National Grid shall retain the right to make the final determination on all regulatory decisions regarding those tariffs and agreements so long as NECO's right to receive reimbursement received under the IFA is not diminished.
	After the FERC approved effective date of applicable FERC jurisdictional tariffs and agreements of the Company related to NECO's transmission assets, National Grid and the Company will coordinate and cooperate with each other with respect to any data, information, or efforts required to rebill/adjust formula rates as needed as a result of any regulatory order impacting historical transmission rates charged under IFA and/or OATT Tariffs. Otherwise, National Grid will have no obligation to make any regulatory decisions or filings related to the new FERC jurisdictional tariffs and agreements of the Company.
	Prior to the FERC approved effective date, the parties shall develop a list of all existing FERC jurisdictional tariffs and agreements that relate to NECO.
	 <u>Bundled Services</u>: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY **PUBLIC** Docket No. D-21-09 Docket No. D-21-09 Attachment NG-DIV 7-36-2-13 Exhibit A Page 10 of 12

Transition Services

Transition Period:	12 months
Fee:	[TBD]
Seller Service	Vice President Regulation and Pricing, New England
Representative	
Company Service	Director, Regulatory Affairs
Representative	Manager, PJM and Federal Regulatory Affairs

Confidential – Draft for discussion

Page 10 of 12

137-REG: Regulatory Support – Stakeholder Group Participation – Transmission

TSA ID:	137-REG
Service:	Regulatory Support – Stakeholder Group Participation – Transmission
Detail:	Prior to the Closing of applicable new FERC jurisdictional tariffs and agreements of the Company related to NECO's transmission assets, National Grid will continue to participate in Transmission-related stakeholder groups. National Grid's regulatory personnel will coordinate with the Company with regard to the positions to be taken and the decisions and/or votes to be made on behalf of the Company, but National Grid shall retain the right to make the final determination on votes to be made on behalf of the Company. Prior to the FERC approved effective date of applicable new FERC jurisdictional tariffs and agreements of the Company related to NECO, National Grid will participate in, and will have authority to vote on behalf of Seller and the Company, in the following stakeholder groups:
	 NEPOOL Markets Committee; NEPOOL Transmission Committee; NEPOOL Reliability Committee; NEPOOL Participants Committee; ISO New England Planning Advisory Committee
	After the FERC approved effective date of applicable FERC jurisdictional tariffs and agreements of the Company related to NECO's transmission assets, National Grid will not represent or vote for the Company at the above-referenced stakeholder groups.
	Prior to FERC approval of applicable tariffs and agreements, the parties shall develop a list of the stakeholder groups in which the Company will assume participation from National Grid.
	 <u>Bundled Services</u>: Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	12months
Fee:	[TBD]
Seller Service Representative	Vice President Regulation and Pricing, New England
Company Service	Director, Regulatory Affairs

Representative Manager, PJM and Federal Regulatory Affairs

Transition Services

This Exhibit A to the draft Transition Services Agreement ("TSA") has been prepared by National Grid USA ("National Grid") for the exclusive use of the party to whom National Grid delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and National Grid (the "Agreement")¹, National Grid does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of National Grid.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. National Grid expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and National Grid has no obligation to update such information, including in the event that such information becomes inaccurate.

This Exhibit A to the draft Transition Services Agreement has been prepared solely for informational purposes only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Exhibit A to the draft Transition Services Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require.

For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to "bundle" services where required for operational purposes, e.g., where services are coterminus. Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.

This Exhibit A to the draft Transition Services Agreement contains material, non-public information concerning National Grid and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among National Grid, National Grid plc and PPL Corporation. The Recipient acknowledges that National Grid considers this document and all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

¹ Following execution of the Agreement, PPL Energy Holdings, LLC assigned its right to acquire The Narragansett Electric Company to its wholly owned subsidiary, PPL Rhode Island, LLC, pursuant to an Assignment and Assumption Agreement.

<u>SERVICE DESCRIPTIONS – SUPPLY CHAIN MANAGEMENT (THE</u> <u>NARRAGANSETT ELECTRIC COMPANY)</u>

068-SC: STRATEGIC PROCUREMENT	3
069-SC: INVENTORY MANAGEMENT	4
127-SC: WAREHOUSE MANAGEMENT	5

TSA ID:	068-SC
Service:	Strategic Procurement
Detail:	 National Grid will provide the following procurement services to the Company: Assistance to the Company in its efforts to procure continued service by the counterparties under existing contracts in the name of Narragansett pursuant to which services have been provided to Narragansett and which services are considered key to the continuity and risk management of Narragansett. For supplier contracts that provide goods and services that are otherwise used in the support or maintenance of Narragansett and other facilities operated by National Grid or any of its Affiliates, National Grid will employ reasonable efforts to maintain in effect such supplier contracts that have not been separated/ replicated by Day 1. On a "best-efforts" basis, National Grid will provide limited ad hoc procurement reporting related to the Company required by the Company to support existing business activities as requested. Service exclusions: Facilitation and/ or support of sourcing events
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Director, Global Procurement Strategy
Company Service Representative:	Director, Supply Chain

069-SC: Inventory management

TSA ID:	069-SC
Service:	Inventory Management
Detail:	National Grid will provide the following Inventory Management services to the Company:
	• Analysis of material requirements and ordering of such materials in line with demand
	• Maintenance of master data in the ERP system (SAP) associated with the Company's inventory
	• Advising the Company on material range and master data set up including maximum and minimum levels, stock levels and lead times
	Service Exclusions:
	 Inventory management for non-stock material items required for gas and electric operations projects
	Bundled services:
	• Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Director, New England Logistics
Company Service Representative:	Manager, Operations Services

127-SC: Warehouse	Management
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TSA ID:	127-SC
Service:	Warehouse Management
Detail:	National Grid will provide the following Warehouse Management services to the Company:
	 Storage of material at the Seller's warehouse according to the Seller's procedures, including maintaining an inventory of the stock held for the Company and verification of this via cycle counts Provision of outbound logistics from New England Distribution Center to existing freebin locations to replenish stock material levels consistent with current service levels and within current standard operating hours Provision of inbound and outbound logistics for pre-capitalized transformers Inventory recovery services including re-sale as requested by the Company Provision of freebin handheld devices and related software Service Exclusion: Gas and electric operations quality control checks IT support services for freebin devices Bundling requirements will be shared as they are identified as part of the service definition and refinement process underway.
Transition Period:	24 months
Fee:	[TBD]
Seller Service Representative:	Director, New England Logistics
Company Service Representative:	Manager, Operations Services

This Transitional Service Agreement ('TSA') has been prepared by National Grid USA (the "Company") for the exclusive use of the party to whom the Company delivers this document (the "Recipient"). Except as expressly set forth in the Share Purchase Agreement, dated as of March 17, 2021, by and among PPL Energy Holdings, LLC, PPL Corporation and the Company, the Company does not make any representation or warranty, either express or implied, as to the accuracy, completeness or reliability of the information contained in this document. Any estimates or projections contained in this document as to events that may occur in the future are based upon the reasonable judgment of the Company.

Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. The Company expressly disclaims any and all liability relating to or resulting from the use of this document. In addition, the information contained in this document is as of the date hereof, and the Company has no obligation to update such information, including in the event that such information becomes inaccurate. *This Transitional Service Agreement has been prepared solely for informational purposes* only. The Recipient should consult its own counsel and tax and financial advisors as to legal and related matters concerning the matters described herein, and by accepting this presentation, the Recipient confirms that it is not relying upon the information contained herein to make any decision. This Transitional Service Agreement does not purport to be all-inclusive or to contain all of the information that the Recipient may require. For the purposes of this draft, TSA services are presented as individually stand-alone. In practice it will be necessary to 'bundle' services where required for operational purposes e.g. where services are co-terminus. Bundling requirements will be shared as they are *identified as part of the service definition and refinement process underway.* This Transitional Service Agreement contains material, non-public information concerning the Company and is subject to the Letter of Confidentiality Undertaking, dated as of January 12, 2021, by and among the Company, National Grid plc and PPL *Corporation. The Recipient acknowledges that the Company considers this document and* all information contained herein to include confidential, sensitive and proprietary information and agrees that it shall use reasonable precautions in accordance with its established procedures to keep the document and all information contained herein confidential and shall not use any such information for any purpose other than for the purposes presented.

IT TRANSITION SERVICES

The IT Transition Services capture the ongoing support of existing applications and infrastructure used by the Seller to support the Company. The term for each Service is based on the anticipated time required by Company to assume responsibility for such IT Transition Services. The Parties agree that the dates and or terms states within this schedule represent the end date for such Services, and that the Company will endeavor to migrate to its own systems as soon as reasonably possible.

The Company acknowledges that the Seller may be in the process of transitioning certain IT applications, including applications used to provide Services hereunder, and that such transition may occur during the Transition Period. Accordingly, it is understood and agreed that certain Services may be transitioned to new applications during the Transition Period. The timing of any Seller IT application transition may be subject to change at the Seller's sole discretion. Once the Seller completes the transition to any new application, the Seller will not be required to maintain the legacy application for use by the Company. The Parties will work together to minimize the impact of any such transition on the Company where reasonably practicable.

All IT Transition Services described herein will be subject to any licensing restrictions imposed on the Seller under its hardware, software, telecommunications, and other vendor agreements.

Any data extracts provided to the Company by the Seller hereunder shall be in the native format or as otherwise agreed to by the Parties.

The Company agrees to abide by all the Seller's cyber-security policies applicable to its receipt of the Services.

Exhibit A **Transition Services**

Service: IT - 1	Business Application Services
Detail:	 Business Application Services The Seller shall provide support for the Seller's critical commercial, operational, and corporate business system applications currently used by the Company, including the support of business logic, application code, and any other necessary interfaces or components required to provide continued business functionality: <u>Back Office Systems</u>. Support for back-office applications, including: Accounting, Purchasing, Finance, Budgeting and Human Resources. <u>Front Office Systems</u>. Support for the front office systems, including but not limited to: Asset Management, GIS, Work
	 Management & Scheduling, Field Operations, Meter Data Systems. <u>Customer Systems</u>. Support for Customer related systems including: Customer Information, CRM, Contact/Call Centers. <u>Other Systems</u>. Support for the "specialized" systems used by the Seller that support the Company's assets, including: CADD, Business Intelligence, specialized Business & Engineering applications.
	 Seller will provide the following additional Business Application Support Services: Support Business Applications, for Seller IT Managed Applications and Infrastructure, by providing Application Management Services, which includes: Event Management Incident Management Problem Management Change Management Release Management Preventative Maintenance (Maintenance windows will be established by Seller and coordinated with Company to ensure proper business continuity) Corrective Maintenance (Maintenance windows will be established by Seller) Application Monitoring Application Scheduling Application Testing Application Availability Management Data Management

Exhibit A Transition Services

Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 2	Service Desk and Service Management Integration Services	
Detail:	Seller will provide the following Service Desk and Service Management Integration Services:	
	 Service Desk: Provide support and user administration functions through the Service Desk. Collect information about and report on the status of events, incidents, and problems. Maintain a repository of knowledge regarding the IT environment to maximize the number of Events that can be handled by the Service Desk without delay or assistance. Operate the Service Desk on a 24x7x365 basis Provide Service Desk Services, including: Event Management Incident Management Problem Management 	
	 Request Fulfillment Access Management Change Management 	
	 2. Service Integration and Management Services: Provide Service Integration and Management Services, including: Event Management Incident Management Problem Management Reporting Services Root Cause Analysis 	
Transition Period:	24 months	
Fee:	As per the terms of the Master Agreement	
Seller Service Representative	Michelle McNaught	

Company Service Representative

Exhibit A **Transition Services**

Service: IT - 3	Collaboration Services (E-Mail) Dependent upon Day 1 strategy
Detail:	 Email services for Company Employees will be transitioned as of the commencement of the Transition Period. The Seller shall provide the data exports of email services as of Close in an archive accessible format for certain key employees only on or within days after closing, retention/restore period to be determined. The Seller shall also route email messages to the Company for an agreed upon period following Close.
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 4	Data Center Services
Detail:	 The Company will provide the following Data Center Services: Support the data center computing infrastructure for the Business Applications Provide the existing environment to support the availability and performance of installed assets Manage floor space within the data center. Provide Data Center Services, on a 24x7x365 basis, including: Event Management Incident Management Problem Management Systems Administration and Monitoring Production Control and Scheduling Tape Management Capacity Management Data Center Provisioning Physical Access Security IT Business Continuity Disaster Recovery Availability Management Configuration and Asset Management Capacity Management

Transition Services

Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Exhibit A **Transition Services**

Service: IT - 5	Client Services
Detail:	 The Seller shall continue to provide its existing desktop support for company-supported hardware and software products including: Installation of software packages, computer setup, antivirus, and coordination for network and hardware support Desktop and Laptop PC's: Support for the desktop and laptop PC's currently in use at the Company to access and operate Seller's applications. Field PC's and Mobile Electronic Devices. Support for the mobile electronic field equipment used by the Company's field personnel, including hardened laptops, field handheld computers, Automatic Vehicle Location Systems (AVLS) devices, cellular modems. Truck-mounted Mobile Field Equipment: Support and maintain truck-mounted field equipment required to access and operate the Seller's application systems used by the Company. Printers, Copiers & Fax's. Support for printers, copiers and FAX machines currently installed at the Company.
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Exhibit A Transition Services

Service: IT - 6	Commercial Services
Detail:	 The Seller shall continue to maintain contract and license support, ensure contracts do not expire, pay invoices, and procure hardware and software as necessary to sustain, and potentially enhance, operations. In addition, the Seller shall: Assist the Company with the identification of software licenses that are currently used solely by the Company and required to support the operations of the Company. Ensure hardware maintenance contracts are in place for the duration of the TSA period.
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 7	Infrastructure Services
Detail:	 To the extent requested by the Company, the Seller shall continue to provide IT servers, storage and network devices, and all controlled computing facilities, including: File Servers - Support and maintain the File Servers currently used by the Company. Application/Platform Servers – Support and maintain the servers currently used by the Company. Mainframe – Support and maintain the mainframe environment currently used by the Company. Storage – Support and maintain the storage hardware currently used by the Company. To the extent any of the above referenced equipment is owned by the Seller, the Parties will discuss the transfer of such equipment to the Company at the end of the Transition Period on mutually agreeable commercial terms, where appropriate/feasible.
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement

Seller ServiceMichelle McNaughtRepresentativeImage: Company ServiceRepresentativeImage: Company ServiceRepresentativeImage: Company Service

Transition Services Service: IT - 8 Networking Support The Seller shall continue to provide the following network management services to the Company: Business Internet Protocol (IP) Networks. Support for the • currently installed IP intranet (Seller internal) network, including all network hardware currently installed at the Company. • Energy Management System (EMS) and Outage Management System (OMS) IP Networks. Support for the currently installed IP networks that are used for the Electric and Gas Energy Management Systems at the Company. J DDV (Dhana System) Support for th

Detail:

•	<u>Desk Phones and PBX (Phone System)</u> . Support for the
	currently installed PBX and telecom circuits that are used
	at Electric and Gas Energy Management Systems at the
	Company.

Wireless Phones and Data Ports. Support the cellular • phones and wireless data ports (aircards) currently in use at the Company.

To the extent any of the above referenced equipment is owned by the Seller, the Parties will discuss the transfer of such equipment to the Company at the end of the Transition Period on mutually agreeable commercial terms, where appropriate/feasible.

Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	
Representative	
Company Service	
Representative	

Service: IT - 9	IT Energy Management Systems (EMS) –
	Supervisory Control and Data Acquisition (SCADA) Systems
Detail:	 The Seller shall continue to provide the following EMS/GMS services to the Company: <u>Electric EMS-SCADA System</u>. Support for the currently installed ABB SPIDER (tr) Electric SCADA/EMS hardware and software that are needed to monitor and control the Company's distribution network. All SCADA software usage and distribution will be subject to the Sellers licensing restrictions. <u>Gas GMS-SCADA System</u>. Support for the currently installed Telvent Gas SCADA/GMS hardware and software that are needed to monitor and control the Company's gas distribution network. All SCADA software usage and distribution is support for the currently installed Telvent Gas SCADA/GMS hardware and software that are needed to monitor and control the Company's gas distribution will be subject to the Sellers licensing restrictions.
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 10	Security Services
Detail:	The Seller shall maintain existing security systems, infrastructure, and processes for the Company for purposes of securing access to business applications, infrastructure and in order to support cyber and physical security requirements.
	 Cyber Security Services may include: Platform Security Network Security Data protection, Vulnerability Management Identity and Access Management Cyber Incident Response
	 2. Physical Security includes: Physical Asset Protection Services Physical Security Operations Center

Exhibit A Transition Services

	People Protection
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 11	Emergency Response Services
Detail:	 Seller will provide the following Emergency Response Services: Support the coordination and execution of the IT emergency response plan (SCIP), as it relates to the Business Applications, in the event of storm restoration and any other business emergency event that requires IT support. In the event of a storm, Application Management and Infrastructure support teams that support the Business Applications will operate in a heightened state of awareness and will have storm restoration teams on stand-by. Provide for desktop support services, including: Set up, test, and support existing substation laptops and storm room equipment Provide on-site desktop support at field locations as appropriate Provide desktop resources at a level consistent with resource levels utilized during previous storms (In the event of a storm that affects both Seller and Company, both companies will collaborate to agree on appropriate resource sharing.) To clarify, Seller Grid is not responsible for: Development, implementation, and execution of Company's Emergency Response Plan Provision of remote access to company's Systems
Transition Period:	24 months
Fee:	As per the terms of the Master Agreement
Seller Service	Michelle McNaught
Representative	
Company Service	
Representative	

Service: IT - 12	Exit and Migration Services							
Detail:	Seller will provide the following Non-ERP Exit and Migration Services during the term of the TSA schedule:							
	 Participate as required in the Company Transition Project Governance Process to facilitate Company's exit from the Seller systems 							
	 Perform knowledge transfer, as it relates to the Business Applications managed by Seller IT 							
	 3. Consult and support in the migration of systems managed by Seller IT. Services will include, as needed: Support application troubleshooting when transitioned as 							
	 architected Provide data extracts in existing file format, including flat file formatting, field mapping, logical/physical schemas, data dictionaries, and meta-data repositories, where it exists 							
	 Provide available and non-proprietary system documentation, and where documentation is not available collaborate with Company on reasonable basic documentation (e.g., basic system drawings, configuration description, test documentation) 							
	5. Identify a migration work stream point of contact or vendor contact, and to the extent reasonably available provide reasonable access to personnel familiar with the applicable Business Applications and related infrastructure (In prioritizing the availability of personnel described above, Seller production issues will take priority over project schedules.)							
	 Notify Company of any changes to the work stream point of contact 							
Transition Period:	24 months							
Fee:	As per the terms of the Master Agreement							

Seller ServiceMichelle McNaughtRepresentativeCompany ServiceRepresentative

Redected

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

National Grid USA and The Narragansett Electric Company <u>Division 9-34</u>

Request:

Response:

PPL Corporation and PPL Rhode Island Holdings, LLC have responded to this request in their response to Data Request Division 9-34.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

National Grid USA and The Narragansett Electric Company Division 9-77

Request:

Provide the number of mobile transformers National Grid has in each of its New York, Massachusetts, and Rhode Island territories.

Response:

National Grid USA has 26 mobile substations owned by its New York affiliate and strategically stored across its territory. National Grid USA has 17 mobile substations owned by its affiliates that are stored in Massachusetts. Lastly, National Grid USA has two mobile substations owned by its Rhode Island affiliate and stored in Massachusetts.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

National Grid USA and The Narragansett Electric Company Division 9-78

Request:

How many spare transformers does National Grid have in each of its New York, Massachusetts, and Rhode Island territories.

Response:

National Grid USA has 95 spare transformers owned by its New York affiliate and strategically located throughout its territory. National Grid USA has 54 spare transformers owned by its affiliates and that are stored in Massachusetts, which includes 32 transformers designated as transmission and 22 transformers designated as distribution. Lastly, National Grid USA has 11 spare transformers owned by The Narragansett Electric Company, which consists of 10 transformers stored in Rhode Island and 1 transformer stored in Massachusetts. The spare transformers in Rhode Island are comprised of seven distribution units and four transmission units.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

National Grid USA and The Narragansett Electric Company Division 9-81

Request:

Concerning the transmission to distribution substations in Rhode Island:

- a. How many substations are in Narragansett's system?
- b. How many of the substations have SCADA systems fully installed and implemented?
- c. How many of these substations have the SCADA system communications interconnected to the SCADA master control facilities and/or a control center?
- d. What is the location (city and state) of the SCADA master control system?
- e. How many electromechanical relays remain in the substations?
- f. How many electronic or solid state relays are in the substations?
- g. How many of the relays in the substations are integrated to the SCADA system?
- h. What are the various communication networks being used to communicate between the substation remote terminal units (RTU) and the SCADA master and control center?

Response:

- a. The Narragansett Electric Company ("Narragansett") has 105 substations that serve distribution customers.
- b. Of the total number of substations, Narragansett has 83 substations with a remote terminal unit ("RTU") that communicates to the Control Center Energy Management System ("EMS"), which provides either analog telemetry or control, or both.
- c. Please see the response to subpart (b), above.
- d. Narragansett's primary Supervisory Control and Data Acquisition ("SCADA") system is located in Northborough, Massachusetts.
- e. There are 3,473 electromechanical relays in the substations.
- f. There are 1,215 electronic or solid-state relays in the substations.
- g. Most of the relays identified in response to subpart (f) are integrated into the SCADA system, where relays provide information to communication processors and RTUs. Providing a more specific count would require a significant effort to review the wiring diagrams in each case.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

- h. At substations with SCADA, National Grid USA uses DNP3 protocol to communicate between control centers and RTUs. The actual medium in how the communication is achieved varies among the following:
 - Private fiber infrastructure or Verizon MPLS circuits;
 - Cellular routers (Verizon);
 - 9.6k modems (over Verizon phone circuits); or
 - Microwave communication.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

National Grid USA and The Narragansett Electric Company Division 9-82

Request:

How many staff members/employees are responsible for the SCADA system and control center operations and are these National Grid service company employees? Please:

- a. State whether these employees are shared between multiple states and if so which states;
- b. Provide the annual cost for the full operation of the SCADA system and control center;
- c. Identify what percentage of the total operating cost for the SCADA system and control center is allocated to Narragansett;
- d. Provide the annual operating cost for the control center allocated to Narragansett;
- e. Provide the book value of the portion of the control center in Northborough, Massachusetts that is assigned to Narragansett:
- f. Provide the book value of the control center in Lincoln, RI assigned to Narragansett; and
- g. Provide the total book value of the Lincoln, RI control center.

Response:

National Grid USA has 123 control center employees and 17 employees responsible for the Supervisory Control and Data Acquisition ("SCADA") system, all of whom are National Grid USA Service Company, Inc. employees.

- a. The above-referenced employees are shared between Rhode Island and Massachusetts.
- b. The annual cost for labor, hardware, software, and communications required to support the SCADA system is \$5.6 million. Annual costs for the Control Center are \$14.4 million.
- c. Twenty-one percent of the SCADA system support costs and twenty-seven percent of the control center costs are allocated to The Narragansett Electric Company ("Narragansett").

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC, NATIONAL GRID USA, and THE NARRAGANSETT ELECTRIC COMPANY Docket No. D-21-09 National Grid USA and The Narragansett Electric Company's Responses to Division's Ninth Set of Data Requests Issued on October 1, 2021

- d. The annual SCADA and control center operating costs allocated to Narragansett is approximately \$5 million.
- e. The original book cost of the portion of the electric transmission and distribution control centers in Northborough, Massachusetts assigned to Narragansett is \$544,000.
- f. The original book cost of the Lincoln, Rhode Island facility is \$10.5 million. National Grid USA is unable to break out a cost specific to the electric transmission and distribution control centers.
- g. See the response to subpart (f), above.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-2

Request:

Please provide a copy of all Documents including any correspondence, analyses, presentations, reports, or memoranda, that constitute or are related to the "comprehensive strategic review," undertaken by PPL's Board of Directors and referenced in the Direct Testimony of Vincent Sorgi at 8:1-2.

Response:

Counsel for PPL and PPL RI, National Grid USA ("National Grid"), The Narragansett Electric Company ("Narragansett"), and The Rhode Island Division of Public Utilities and Carriers Advocacy Section (the "Division Advocacy Section") met and conferred regarding the breadth and scope of certain data requests. After that meet and confer, the Division Advocacy Section sent a letter, dated June 22, 2021, advising that PPL, PPL RI, National Grid, and Narragansett can "use sound judgment and the rule of reason in crafting responses and providing responsive documents." The Division Advocacy Section also advised in the June 22, 2021 letter PPL, PPL Rhode Island, National Grid, and Narragansett to "consider the Advocacy Section's goal of protecting ratepayers when determining scope and relevancy." Based on the scope and breadth of this request, PPL and PPL RI have applied the rule of reason and used sound judgment in limiting the breadth and scope of documents produced in response to this request, and have considered the Division Advocacy Section's goal of protecting ratepayers in determining which documents it will produce.

PPL and PPL RI (collectively, "PPL") also object to this data request because it is seeks irrelevant information and documents and exceeds the scope of this proceeding. This joint petition seeks Division approval for PPL RI's purchase of all shares of common stock of The Narragansett Electric Company ("Narragansett") under R.I. Gen. Laws s. 39-3-24 and 39-3-25. Those statutes and previous decisions by the Division establish the standard of review applicable to this proceeding: they require a finding that the proposed transaction will neither cause a detriment to the public nor diminish the provision of Narragansett's electric and gas distribution service. As the Division has held previously, this review is narrow. First, "the Division must conclude, before approving a R.I.G.L. § 39-3-24 petition, that there will be no degradation of utility services after the transaction is consummated." *In re Joint Pet. For Purchase & Sale of Assets by the Narragansett Elec. Co. & the S. Union Co.*, Dkt. No. D-06-13, 52 (R.I.D.P.U.C. July 25, 2006). Second, the Division must find "that the proposed transaction will not unfavorably impact the general public (including ratepayers)." *Id.* The information requested in this data request will not inform the Division's application of the standard.

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 Division's First Set of Data Requests Issued on June 8, 2021

Other state utility commissions to consider the issue presented by this data request have concluded that the information is not relevant to the scope of this proceeding. The Public Service Commission of the District of Columbia, for example, has stated the following:

We find further that any evaluation and/or comparisons of this proposed merger with other "proposed" mergers would be speculative at best. While the inquiries would produce information about other potential mergers, that information would contain matters unique to the other "potential" mergers. As we stated in Order No. 17530, "each merger is a unique combination of companies at a distinct time in the development of the electricity market." The requested discovery would, in our opinion result largely in "comparing apples to oranges."

Formal Case No. 1119, In re Joint Application of Exelon Corp., Pepco Holdings, Inc., Potomac Elec. Power Co., Exelon Energy Delivery Co., LLC, & New Special Purpose Entity, LLC for Authorization & Approval of Proposed Merger Transaction, Order No. 17619, 10-11 (D.C. Pub. Serv. Comm'n Sept. 4, 2014) (denying motion to compel response to data request).

This data request seeks information that does not bear on the two-pronged standard the Division applies to evaluate this transaction. Rather, it is an unnecessary exploration into the thought processes and business strategy PPL employed in deciding to enter into this transaction or in considering other transactions. PPL, like many companies, is constantly evaluating strategic options. The internal analysis it employs in analyzing potential transactions is not relevant and will not inform the evaluation of whether PPL can continue to operate Narragansett in a manner that provides an equivalent level of service. Nor does this request seek any information that bears on the impact the transaction will have on the public. Rather, this request seeks irrelevant and proprietary information regarding PPL's analysis of potential transactions. That is beyond the scope of this proceeding.

PPL and PPL RI refer to the following documents, some of which have been redacted to protect information about other potential transactions based on the foregoing objections:

- Attachment PPL-DIV-1-2-1 Presentation to the Finance Committee dated 1-29-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-2 Presentation to the Finance Committee dated 3-25-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-3 Finance Committee Discussion Materials dated 3-11-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-4 Finance Committee Meeting Minutes dated 3-11-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-5 Board Meeting Minutes dated 3-15-2021-CONFIDENTIAL

Prepared by or under the supervision of: Legal Department

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

PL Corporation and PPL Rhode Island Holdings, LLC's Responses to Division's First Set of Data Requests Issued on June 8, 2021

- Attachment PPL-DIV-1-2-6 Executive Committee Meeting Minutes dated 3-17-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-7 Confidential Message from Vince Sorgi dated 7-17-2020 CONFIDENTIAL
- Attachment PPL-DIV-1-2-8 Board Update re Investor Reaction to UK Announcement dated 8-11-2020 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-9 Communications and Next Steps dated 3-12-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-10 Delegation of Transaction Approval to Executive Committee dated 3-15-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-11 Draft Strategic Repositioning of PPL Corporation dated 3-18-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-12 JP Morgan Statement re Fairness Opinion dated 3-17-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-13 Update re Vortex and Rover Transaction Agreements dated 3-17-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-14 PPL Draft News Release dated 3-17-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-15 Skadden Updated dated 3-17-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-16 Updated Financial Committee Discussion Materials dated 3-17-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-17 Report of Executive Committee dated 6-19-2020 CONFIDENTIAL
- Attachment PPL-DIV-1-2-18 Report of Executive Committee dated 3-17-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-19 Investor Relations Updated dated 1-22-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-20 Investor Presentation with Rover dated 3-12-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-21 Legal Matters Presentation dated 3-12-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-22 Overview of Rover Transaction Agreements and Regulatory Matters dated 3-12-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-23 Overview of Vortex Transaction Agreements and Regulatory Matters dated 3-12-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-24 PPL Corporate Strategy July 2020 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-25 BOD Discussion Materials dated 3-12-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-26 BOD Discussion Materials dated 12-18-2020 CONFIDENTIAL
- Attachment PPL-DIV-1-2-27 Project Vortex Updated 1-22-2021 -CONFIDENTIAL

Prepared by or under the supervision of: Legal Department

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 Division's First Set of Data Requests Issued on June 8, 2021

- Attachment PPL-DIV-1-2-28 BOD Discussion Materials dated 10-23-2020 CONFIDENTIAL
- Attachment PPL-DIV-1-2-29 Report of Finance Committee dated 3-25-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-30 Report of Finance Committee dated 1-29-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-31 Report of Finance Committee dated 3-11-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-32 Project Vortex Final Bids and Recommendations dated 3-15-2021 - CONFIDENTIAL
- Attachment PPL-DIV-1-2-33 Update re Rover Transaction Agreements dated 3-15-2021 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-34 Rover Due Diligence Review dated 3-12-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-35 BOD Discussion Materials dated 3-26-2021 CONFIDENTIAL
- Attachment PPL-DIV-1-2-36 BOD Discussion Materials dated 7-24-2020 CONFIDENTIAL
- Attachment PPL-DIV-1-2-37 PPL Strategy Update CEO's Perspective dated 10-23-2020 -CONFIDENTIAL
- Attachment PPL-DIV-1-2-38 Update re Vortex Transaction Agreements dated 3-15-2021-CONFIDENTIAL
- Attachment PPL-DIV-1-2-39 Vortex Note to the Board dated 3-17-2021 CONFIDENTIAL

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 Division's First Set of Data Requests Issued on June 8, 2021

Attachments PPL-DIV 1-2-1 to 1-2-39

Confidential Attachments PPL-DIV 1-2-1 to 1-2-39 contain confidential commercial or financial information. PPL and PPL RI have requested protective treatment of these confidential attachments in their entirety.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-8

Request:

Please state the date by which PPL anticipates that Narragansett will file its next base distribution rate case with the Rhode Island Public Utilities Commission. If PPL has not yet identified a target date for such submission, please explain the reason PPL has not yet done so.

Response:

PPL and PPL RI have not yet identified a target date to file the next base distribution rate case for The Narragansett Electric Company ("Narragansett") with the Rhode Island Public Utilities Commission (the "Commission"). PPL and PPL RI have not identified the target date because they plan to work in collaboration with the Rhode Island Division of Public Utilities and Carriers (the "Division") to determine best timing to file a base distribution rate case that will reflect the costs associated with PPL and PPL RI's ownership and operation of Narragansett after closing the Transaction.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-34

Request:

Please provide PPL's current estimate of the date by which it expects to complete the takeover of the provision of services to Narragansett from National Grid. If the completion of the transfer is contingent on the occurrence of an event or events, please identify or describe with specificity the events the completion of which will trigger such transfer.

Response:

PPL and PPL RI currently expect to complete the integration and transition of all services to The Narragansett Electric Company ("Narragansett") within 24 months after closing PPL RI's acquisition of all National Grid USA's common equity interests in Narragansett. The transfer is not contingent on the occurrence of any specific events; rather, it is contingent on PPL and PPL RI confirming (through testing and other confirmatory measures) that the transfer of each service will be smooth and not result in any impact on the continued provision of safe and reliable service to all Narragansett customers.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-47

Request:

Please provide a copy of Schedule 6.9 to the Newquay Disclosure Schedule.

Response:

Please see Attachment DIV 1-47-1 (CONFIDENTIAL) and Attachment DIV 1-47-2 (CONFIDENTIAL).

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 Division's First Set of Data Requests Issued on June 8, 2021

Attachments PPL-DIV 1-47-1 to 1-47-2

Confidential Attachments PPL-DIV 1-47-1 to 1-47-2 contain confidential commercial and financial information. PPL and PPL RI have requested protective treatment of these confidential attachments in their entirety.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-54

Request:

Referencing the testimony of Mr. Sorgi's testimony at 9:10-12, in which he states: "We also believe that infrastructure investments and a more localized operating model under PPL's ownership will create jobs and support economic development in Rhode Island," please:

- a. Explain PPL's "localized operating model,"
- b. Provide any analyses or comparisons performed assessing the PPL model against how Narragansett is currently managed;
- c. Quantify the number of jobs PPL expects that will be created, including any supporting data, studies, workpapers, reports, and information; and
- d. Please provide any data, studies, workpapers, reports, and information to support PPL's claim that the Transaction will result in economic development.

Response:

- a. PPL's localized operating model can best be described as the people who are responsible to ensure the safe and reliable electric and gas service to customers will be present locally in Rhode Island and will have the appropriate decision making authority commensurate with those responsibilities. In addition, the President will work directly with the EVP and COO and other members of PPL's Executive team, as necessary, to ensure that Narragansett has the resources and support necessary to provide this service to Rhode Island customers as having the appropriate resources necessary to carry out that mission. Also see PPL and PPL RI's response to data request Division 1-19.
- b. No such analyses or comparisons have been performed or documented. PPL and National Grid continue to work out the details to ensure a smooth transition.
- c. As stated in b. above, PPL and National Grid continue to develop the organization structure and number of employees needed as we transition off the TSA over the two-year transition period. Certain functions that are currently provided by National Grid that are planned to be created in Rhode Island are Customer Contact and back office functions, Electric dispatch and control room operations, gas control and dispatch functions, gas and electric training operations and miscellaneous service company functions. Total number of employees in these areas has not been determined at this time.

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 Division's First Set of Data Requests Issued on June 8, 2021

d. We did not perform any studies or reports on the resulting economic impact of this transaction. A key component of utility operations is investments in infrastructure. If the Transaction is approved, PPL expect to submit plans for approval that increases the amount of infrastructure investments in Rhode Island, which will have a direct impact on the Rhode Island economy through direct and indirect purchases, use of contractors and service providers. In addition, PPL plans to create certain functions in Rhode Island that will require investments in facilities, construction, professional services and purchases (see item c. above) Also, PPL has a long history of investing in the communities they serve. In Pennsylvania & Kentucky for 2020 PPL provided more than \$12M in charitable giving, had 60-80K hours of volunteer work, supported over 300 nonprofits, had \$275M spend on diverse suppliers, had 60% of the corporate spend on locally based suppliers, provided over \$2M to support COVID relief, donated 20k N95 masks to health care workers and donated \$100K to support racial injustice initiatives.

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 Division's First Set of Data Requests Issued on June 8, 2021

Division 1-54

Request:

Referencing the testimony of Mr. Sorgi's testimony at 9:10-12, in which he states: "We also believe that infrastructure investments and a more localized operating model under PPL's ownership will create jobs and support economic development in Rhode Island," please:

- a. Explain PPL's "localized operating model,"
- b. Provide any analyses or comparisons performed assessing the PPL model against how Narragansett is currently managed;
- c. Quantify the number of jobs PPL expects that will be created, including any supporting data, studies, workpapers, reports, and information; and
- d. Please provide any data, studies, workpapers, reports, and information to support PPL's claim that the Transaction will result in economic development.

Response:

- a. PPL's localized operating model can best be described as the people who are responsible to ensure the safe and reliable electric and gas service to customers will be present locally in Rhode Island and will have the appropriate decision making authority commensurate with those responsibilities. In addition, the President will work directly with the EVP and COO and other members of PPL's Executive team, as necessary, to ensure that Narragansett has the resources and support necessary to provide this service to Rhode Island customers as having the appropriate resources necessary to carry out that mission. Also see PPL and PPL RI's response to data request Division 1-19.
- b. No such analyses or comparisons have been performed or documented. PPL and National Grid continue to work out the details to ensure a smooth transition.
- c. As stated in b. above, PPL and National Grid continue to develop the organization structure and number of employees needed as we transition off the TSA over the two-year transition period. Certain functions that are currently provided by National Grid that are planned to be created in Rhode Island are Customer Contact and back office functions, Electric dispatch and control room operations, gas control and dispatch functions, gas and electric training operations and miscellaneous service company functions. Total number of employees in these areas has not been determined at this time.

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 Division's First Set of Data Requests Issued on June 8, 2021

d. We did not perform any studies or reports on the resulting economic impact of this transaction. A key component of utility operations is investments in infrastructure. If the Transaction is approved, PPL expect to submit plans for approval that increases the amount of infrastructure investments in Rhode Island, which will have a direct impact on the Rhode Island economy through direct and indirect purchases, use of contractors and service providers. In addition, PPL plans to create certain functions in Rhode Island that will require investments in facilities, construction, professional services and purchases (see item c. above) Also, PPL has a long history of investing in the communities they serve. In Pennsylvania & Kentucky for 2020 PPL provided more than \$12M in charitable giving, had 60-80K hours of volunteer work, supported over 300 nonprofits, had \$275M spend on diverse suppliers, had 60% of the corporate spend on locally based suppliers, provided over \$2M to support COVID relief, donated 20k N95 masks to health care workers and donated \$100K to support racial injustice initiatives.

Supplemental Response:

(b) PPL and PPL RI refer to Attachment PPL-DIV 1-54-1 for additional information responsive to this request.

Analysis of PPL's Cost to Operate The Narragansett Electric Company

- I. Introduction
- II. Assumptions and Approach
- III. National Grid's current costs to operate Narragansett
 - a. Direct Opex
 - b. Indirect Opex
 - c. Benefits Costs
 - d. Allocated Depreciation
 - e. Total National Grid Managed Cost Summary
- IV. PPL's expected costs to operate Narragansett
 - a. Rhode Island Direct Labor
 - b. Rhode Island Direct Non-Labor
 - c. PPL Allocations
 - d. Allocated Depreciation
 - e. Total PPL Managed Cost Summary
- V. Cost Summary Comparison
 - a. Total Cost Summary Comparison
 - b. Operational Cost Summary Comparisons
 - c. Corporate Cost Summary Comparisons
- VI. Conclusion
- VII. Appendix
 - 1. Complete FY21 National Grid Narragansett Cost Structure
 - 2. Reconciliation of FY21 National Grid Narragansett Cost Structure to Published Financial Statements
 - 3. PPL Rhode Island Direct Organizational Structure
 - 4. PPL Rhode Island Aligned Corporate Support

I. Introduction

PPL Corporation ("PPL") has prepared an analysis of the anticipated costs to operate The Narragansett Electric Company ("Narragansett") if the Rhode Island Division of Public Utilities and Carriers (the "Division") approves the proposed acquisition of Narragansett (the "Transaction"). This analysis compares these anticipated costs to National Grid USA's ("National Grid") current costs to operate Narragansett. This analysis demonstrates that the Transaction will not result in increased costs to operate Narragansett and therefore will not increase rates for the current electric and gas distribution services.

II. Assumptions and Approach

PPL does not currently own and operate Narragansett and does not have the ability to fully assess each and every aspect of its future operations. When preparing this cost comparison, PPL thus relied on the information it received from National Grid – both with regard to its current costs to operate and with regard to the operations and functions necessary for PPL to operate Narragansett after the Transaction is approved and a closing occurs.

The purpose of this analysis is to provide a current view of PPL's reasonable expectation of the comparison between National Grid's current costs to operate Narragansett and PPL's anticipated costs to operate Narragansett at the conclusion of the transition period. If the Division approves the Transaction, when PPL takes over control and operation of Narragansett and obtains firsthand knowledge of its operations the anticipated costs will change to some extent. This analysis, therefore, is not a budget for PPL costs in future years; it is a cost comparison based on the best information currently available and estimates generated from that information.

PPL made several structural assumptions preparing this analysis. First, PPL assembled National Grid's actual Fiscal Year ("FY") 2021 costs to operate Narragansett. PPL then developed its anticipated

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costs to operate Narragansett after the transition services¹ expire approximately two years after Transaction close. This approach allows PPL to compare its anticipated 'steady state' operating costs to National Grid's "steady state" operating costs as they exist today.

Second, PPL limited this analysis to operating and maintenance costs plus allocated depreciation from service company assets that support Narragansett. These costs are deemed "managed" costs. PPL excluded pass-through costs from the analysis because they do not reflect the cost of operating the core electric and gas businesses. These pass-through costs include purchased power and gas, transmission wheeling costs, asset depreciation, taxes and other non-operational related costs.² The comparison of "managed" operating costs provides a basis to compare the operating model differences resulting from the change in control. A detailed view of total costs is included in the Appendix.

Third, PPL evaluated and considered the impact of the structural differences between National Grid's and PPL's operating models. For example, as explained later, PPL intends to establish a dedicated Rhode Island organization to provide operational functions (i.e., electric and gas operations and maintenance) serving the customers of Rhode Island, while National Grid uses a shared services model across its jurisdictions for similar functions. Both PPL and National Grid have service companies that provide centralized corporate and administrative services functions, but they differ in their composition (e.g., certain subfunctions are categorized differently between PPL and National Grid's current operating model and related costs to PPL's anticipated operating costs under its expected operating model.

¹ National Grid will continue to provide certain services ("Transition Services") to support Narragansett during the transition to PPL to allow PPL to establish the infrastructure required to operate Narragansett independently. It is expected that these transition services will not exceed two years in duration.

² PPL is an experienced operator of electric and gas companies and will apply its expertise to effectively and efficiently control these pass- through costs (e.g., effective procurement of electricity and gas, management of bad debt expense, and conduct of storm response), to the extent possible.

For this analysis, National Grid provided its FY21 actual costs to operate Narragansett, including both direct and indirect operating costs assigned and allocated to Narragansett, as defined in National Grid's internal management reporting. Direct operating costs ("Direct Opex") are costs related to electric and gas operations, as well as directly associated support costs (e.g., Operations Support and Energy Procurement). Indirect operating costs ("Indirect Opex") are service company costs (e.g., Customer Operations, Legal, HR, Finance) assigned and allocated to Narragansett. National Grid accumulates benefits (e.g., medical, dental, pension, etc.) costs in aggregate; so, these amounts are shown separately rather than assigned to individual functional salary levels. The cost analysis also included depreciation costs from the service company to reflect shared assets (e.g., IT, facilities) that are allocated to Narragansett.

PPL integration teams developed a Rhode Island organizational structure by functional area that reflects the staffing levels expected to operate the business once fully transitioned from National Grid. PPL also developed the corporate and administrative services and associated costs necessary to operate Narragansett.

III. National Grid Narragansett Costs

a. Direct Opex

The Direct Opex costs assigned and allocated to the Narragansett utility are identified in **Table 1** below.

National Grid utilizes 17 cost centers, which PPL aggregated into functional categories (e.g., New England Electric costs and New York Electric costs (providing support to Narragansett) were consolidated to the Electric function). Cost types include Base Labor costs plus other nonlabor costs such as Contractors, Materials, Consultants, and Other Expenses). In total, National Grid's Direct Opex for Narragansett is \$113.6M, which includes \$51.0M in Base Labor Costs and \$62.6M in Non-Base Labor costs.

Table 1. Direct Opex - Costs by Function and Cost Type										
	Base Labor	Contractors	Other Expenses	Trans- portation	Consultants	Materials	Overtime	Employee Expenses	Total	
Electric	\$20.4M	\$13.4M	\$1.5M	\$3.2M	\$0.6M	\$2.6M	\$1.7M	\$0.7M	\$44.0M	
Gas	\$22.7M	\$7.0M	\$2.7M	\$4.0M	\$0.9M	\$2.4M	\$4.4M	\$0.6M	\$44.7M	
Transformation	\$2.5M	\$0.4M	\$0.3M	\$0.0M	\$1.4M	\$0.0M	\$0.0M	\$0.0M	\$4.6M	
Operations Support	\$1.7M	\$4.0M	\$6.8M	\$0.3M	\$0.2M	\$0.4M	\$0.3M	\$0.0M	\$13.6M	
Energy Procurement	\$1.0M	\$0.0M	\$0.0M	-	\$0.0M	\$0.0M	-	\$0.0M	\$1.1M	
Safety, Health & Environment	\$0.6M	\$1.1M	\$0.1M	\$0.0M	\$0.1M	\$0.1M		\$0.0M	\$2.0M	
Regulation	\$1.5M	\$0.0M	\$0.0M	-	\$0.0M	\$0.0M	\$0.0M	\$0.0M	\$1.5M	
Business Planning & Perf	\$0.3M	-	\$0.0M	-	\$0.0M	\$0.0M	-	\$0.0M	\$0.3M	
President	\$0.4M	\$0.9M	\$0.1M	-	\$0.1M	\$0.0M	-	\$0.0M	\$1.7M	
Total	\$51.0M	\$26.8M	\$11.6M	\$7.6M	\$3.4M	\$5.5M	\$6.3M	\$1.4M	\$113.6M	

b. Indirect Opex

National Grid's Indirect Opex categories include the assigned and allocated costs for corporate and administrative services provided to Narragansett from National Grid's service company. These services and associated costs include functions such as IT, Customer Operations, Finance, and Legal.

PPL summarized National Grid's 12 Indirect Opex cost centers, as identified by National Grid, in **Table 2** below. This table summarizes the Indirect Opex cost types, which include Base Labor costs plus other nonlabor costs such as Consultants, Contractors, and Other Expenses. In total, National Grid's Indirect Opex for Narragansett is \$86.9M which includes \$32.0M in Base Labor Costs and \$54.9M in Non-Base Labor costs.

Table 2. Indirect Opex - Costs by Function and Cost Type									
	Base Labor	Contractors	Other Expenses	Trans- portation	Consultants	Materials	Overtime	Employee Expenses	Total
IT	\$8.0M	\$5.7M	\$10.8M	\$0.0M	\$9.5M	\$0.0M	\$0.8M	\$0.0M	\$34.9M
Customer Operations	\$8.7M	\$5.4M	\$5.6M	\$0.0M	\$1.7M	\$0.3M	\$0.7M	\$0.1M	\$22.5M
Audit	\$0.4M	\$0.1M	\$0.0M	-	\$0.1M	\$0.0M	-	\$0.0M	\$0.6M
Corporate Cost Center	\$0.0M		\$2.2M		\$0.2M	\$0.0M	\$0.0M	\$0.3M	\$2.6M
EBS, Procurement, Transformation	\$3.4M	\$0.6M	\$0.1M	-	\$0.3M	\$0.0M	\$0.0M	\$0.0M	\$4.4M
Finance	\$5.0M	\$0.5M	\$3.3M	-	\$2.0M	\$0.0M	\$0.0M	\$0.0M	\$10.8M
Global Legal	\$2.0M	\$0.4M	\$0.1M	-	\$1.3M	\$0.0M	\$0.0M	\$0.0M	\$3.9M
Human Resources	\$1.4M	\$0.2M	\$0.1M	\$0.0M	\$0.0M	\$0.1M	\$0.0M	\$0.0M	\$1.9M
NGV Jurisdiction	-	-	\$0.2M	-	\$0.0M	-	-	\$0.0M	\$0.2M
President US Utilities	\$0.2M	\$0.1M	\$0.3M	-	\$0.0M	\$0.0M	\$0.0M	\$0.0M	\$0.7M
Strategy & External Affairs	\$2.3M	\$0.1M	\$0.9M	\$0.0M	\$0.6M	\$0.0M	-	\$0.1M	\$4.0M
Transformation Office	\$0.3M	\$0.1M	\$0.0M	-	\$0.0M	\$0.0M	\$0.0M	\$0.0M	\$0.5M
Total	\$32.0M	\$13.0M	\$23.6M	\$0.0M	\$15.7M	\$0.4M	\$1.5M	\$0.6M	\$86.9M

c. Benefits Costs, Pension and OPEB

National Grid captures employee benefits and pension costs at the service company level and allocates those costs to Narragansett. These costs represent benefits such as medical insurance, retirement benefits, flexible spending accounts, etc. as well as pension, retiree medical and retiree life insurance costs, where applicable. As shown in **Table 3** below, these benefits costs assigned and allocated to Narragansett are \$55.4M.

Table 3. Employee Benefits					
	Total				
Other Employee Benefits	\$45.1M				
Pension & OPEB	\$10.3M				
Total	\$55.4M				

d. Allocated Depreciation

Allocated depreciation refers to depreciation related to National Grid corporate assets that has been assigned and allocated to Narragansett. This depreciation is primarily related to Information Technology assets, but also includes a portion of facilities-related assets as well. As described earlier, National Grid tracks depreciation and amortization related to Narragansett transmission and distribution infrastructure separately, and PPL did not consider those costs as part of this analysis as they reflect capital investment decisions made by National Grid in prior years. As shown in **Table 4** below, the depreciation National Grid assigned and allocated to Narragansett totals \$29.6M.

Table 4. Allocated Depreciation				
	Total			
Allocated Depreciation	\$29.6M			
Total	\$29.6M			

e. Total Managed Cost Summary

National Grid's total managed costs assigned and allocated to Narragansett in Direct Opex,

Indirect Opex, Employee Benefits, Pension and PBOP, and Allocated Depreciation are summarized in **Figure 1** below.

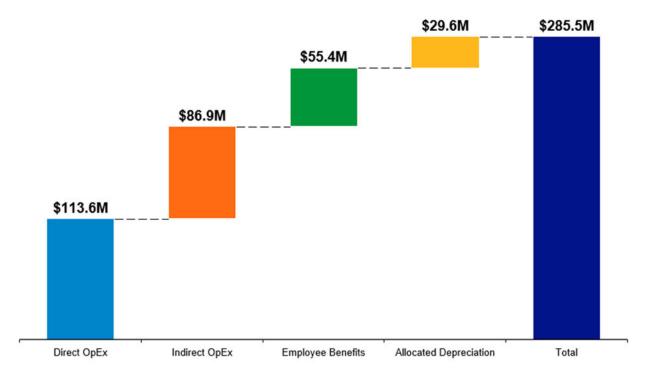


Figure 1. National Grid Managed Cost Structure, FY2021 Actuals

IV. PPL Narragansett Costs

In developing PPL's anticipated costs to operate Narragansett, PPL first refined its intended operating model for the Rhode Island utility. PPL will employ a dedicated Rhode Island organization to provide a high level of service focused on Rhode Island customers. This Rhode Island-focused operating model will also drive additional investment in the State. PPL will supplement this organization with appropriate centralized corporate and operations services.

a. Rhode Island Direct Labor

In developing its Rhode Island organization, PPL collaborated with National Grid to ensure it understood the specific work, activities, and staffing levels required to operate Narragansett across electric, gas, customer and corporate functions. PPL then developed its own bottom-up staffing model, utilizing PPL's operating practices. In addition, PPL named its planned Rhode Island leadership team, and those leaders participated in these staffing decisions. These staffing levels are based on PPL's current understanding of Rhode Island requirements and could change as PPL operates Narragansett during the transition period. It is also important to note that the union labor force supporting Narragansett today will transition to PPL upon approval of the Transaction providing continuity in knowledge of electric and gas system operations.

Under PPL, Narragansett will be led by a local President with accountability for Rhode Island operations across Electric Operations, Gas Operations, Customer, Business Services, Regulatory and Government Affairs, Human Resources and Finance. PPL will locate leaders for each of these functions in Rhode Island. The high-level organizational structure for the Rhode Island business is highlighted in **Figure 2** below with a more detailed depiction provided in the Appendix.



PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC

A brief description of these functions, with associated headcount is provided below:

Electric Operations: A Senior Director will lead the electric operations organization, which will include 498

positions comprising the following subfunctions and staffing levels:

Subfunction	Description	Staffing
Asset Management & Engineering	Includes activities such as regional field engineering, protection & control, Telecom, metering engineering, distribution design, distribution planning & asset management	61
Field Operations	Includes overhead and underground crews, customer meter services, substation and relay test, resource coordination and forestry management	399
Project Management	Includes construction, supervision and project management for transmission, substation, and complex distribution capital projects	13
Distribution Control Center	Includes a stand-alone distribution control center	25

PPL's service company will provide certain operational support subfunctions like Transmission Control,

and Transmission/Substation planning, engineering, and asset management.

Gas Operations: A Vice President level individual will lead the Gas Operations organization of 554

positions comprising the following subfunctions and staffing levels:

Subfunction	n Description				
Engineering & Asset Management	Includes support for gas engineering, asset information mapping (Geographic Information System), corrosion control, integrity planning and investment planning	42			
Gas Construction & Complex Capital	Includes project management and planning, and contract management and cost control for large, complex capital projects	15			
Gas Operations	This organization will lead the gas field operations, customer meter services, leak survey, damage prevention and construction and inspection teams	346			
Gas System Control & LNG Operations	Includes gas control, instrumentation and regulation and LNG operations	66			
Gas Procurement	Responsible for forecasting gas demand and ensuring gas supply to Narragansett customers.	14			
Pipeline Safety & Compliance	This team is responsible for compliance programs and compliance assurance as well as quality assurance	24			
Work & Resource Planning	Will include planning/scheduling and coordination as well as dispatch operations	47			

Customer: A Senior Director will lead customer service / operations overseeing an organization of 153

positions comprising the following subfunctions and staffing levels:

Subfunction	Description	Staffing
Business Services	This team will manage electric and gas connections as well as interconnections	26
Customer Center Operations	Will include customer service representatives and exception management representatives	93
Operations Support	This team will provide a variety of activities, such as billing operations, credit and collections, billing, vendor management, workforce and configuration management as well as call center training / Quality Assurance and metrics and reporting	27
Programs	This organization will support the various programs in Rhode Island, such as energy efficiency and conservation, customer assistance programs and Distributed Energy Resources & electric vehicles	71

Note 1: Additional resources to support the energy efficiency and conservation programs are required but not represented here as their cost is captured through a separate regulatory mechanism

PPL's service company, working in conjunction with Rhode Island leadership, will support strategic

programs, such as customer experience strategy and digital transformation.

Business Services: A senior director will lead business services overseeing functions that support the core electric and gas operations in Rhode Island. This team of 61 positions includes the following subfunctions and staffing levels:

Subfunction	Subfunction Description				
Fleet	Includes vehicle maintenance and asset performance	22			
Property Services	This team will support facility operations and maintenance across the various sites in Rhode Island				
Supply Chain	Supply Chain This team is responsible for procurement of materials as well as inventory and warehouse management				
Emergency Response	This team will manage the Rhode Island emergency response plan and oversee the command structure	2			
Environmental	This team will support environmental permitting, reporting, and manage site investigation & remediation efforts	2			
Safety	This team will manage the Dig Safe and field safety programs	3			
Security					
Technical Training This team will design and execute training programs for the Rhode Island operations					

Regulatory and Government Affairs: This team will oversee local and regional government and community activities in Rhode Island. A senior director will lead this team overseeing 10 positions that will include the following subfunctions and staffing levels:

Subfunction	Description	Staffing
Regulatory Strategy	These teams will focus on overall regulatory strategy, supporting rate structuring / rate cases and proceedings	2
Rhode Island Community and Economic Development	This team will support development and execution of local community and economic development programs	4
Rhode Island External / Internal Communications	This team will manage both internal and external communications for PPL Rhode Island	2
Rhode Island State Government Relations	This function will manage relationships with Rhode Island state governmental bodies	1
Rhode Island State Regulatory Affairs	This function will manage interactions with Rhode Island state regulatory bodies	1

Human Resources: Although PPL's service company will provide many strategic and programmatic Human Resource functions, and PPL will charge the costs for those resources through allocations to Narragansett, there also will be dedicated resources to support the employees and operations in Rhode Island. This includes a local HR manager and 2 positions to support labor relations:

Finance: The Narragansett finance organization will provide management reporting to support leadership decision making across the Rhode Island business. A Director-level individual will lead this team and will oversee 12 positions, including the following subfunctions and staffing levels:

Subfunction	Description	Staffing
Finance Business	This team will manage Rhode Island business unit financial	7
Partnering & Key	planning and analysis activities, and support financial	
Performance Indicators	performance reporting	
Property Accounting	This team will support Rhode Island plant / asset accounting	5

In total, PPL has identified 1,298 positions that will support the Rhode Island utility, inclusive of both management (414) and union (884) employees. To derive a labor cost estimate, PPL grouped the positions by function and applied average PPL salaries for management and union positions. PPL also applied its average benefits loading rates for both management (64%) and union (36%) positions. PPL also applied labor capitalization rates for direct labor to reflect the estimated O&M portion based on a review of PPL and National Grid capitalization rates to determine the rates that best reflect the business and infrastructure requirements inherent in Rhode Island. The resulting labor and benefits O&M costs totaling \$107.0M are shown in **Table 5**, below.

Table 5. Rhode Island Direct Labor								
		Union				Total		
	0&M %	Avg. Salary	FTEs	Fully Loaded Labor, O&M	Avg. Salary	FTEs	Fully Loaded Labor, O&M	Fully Loaded Labor, O&M
Management (VP+)	100%	-	-	-	\$316.0K	2	\$1.3M	\$1.3M
Customer	95%	\$72.9K	84	\$7.9M	\$109.3K	70	\$11.9M	\$19.8M
Electric	37%	\$99.4K	377	\$18.9M	\$112.8K	122	\$8.3M	\$27.2M
Finance	100%	-	-	-	\$117.4K	13	\$2.5M	\$2.5M
Gas	64%	\$82.7K	385	\$27.7M	\$101.4K	169	\$18.0M	\$45.7M
Human Resources	95%	-	-	-	\$123.0K	3	\$0.6M	\$0.6M
Business Services	85%	\$87.7K	38	\$3.9M	\$112.5K	24	\$3.8M	\$7.6M
Regulatory and Government Affairs	100%	-	-	-	\$126.3K	11	\$2.3M	\$2.3M
Total			884	\$58.4M		414	\$48.6M	\$107.0M

b. Rhode Island Direct Non-Labor

In addition to direct labor costs, under PPL Rhode Island Holdings, LLC ownership, Narragansett will have numerous non-labor costs, such as the use of outside contractors and/or consultants, supplies and materials, and transportation expenses. Although PPL anticipates it will have the ability to optimize these costs in the intermediate and long-term as it leverages its scale and operating practices,³ for purposes of this analysis PPL assumed that non-labor costs would closely mirror those currently incurred under National Grid ownership.

PPL utilized National Grid's existing non-labor costs to operate Narragansett as a baseline. PPL held costs relating to National Grid's "Direct" functions and its Customer Operations functions constant unless it identified specific costs that could be avoided or deemed a one-time cost. As an example, in Customer Operations, PPL eliminated costs related to Payment Processing because PPL will perform those activities at the service company and not directly charge them to Narragansett. PPL captured these costs in the PPL allocations. PPL will generally avoid costs relating to National Grid's "Indirect" functions because PPL's allocations of corporate and administrative costs will generally capture National Grid's "Indirect"

³ This includes, but is not limited to, purchasing economies gained from consolidating common materials and contractor spend across Pennsylvania, Kentucky and Rhode Island and standardization of processes resulting in lower costs.

functions. PPL reviewed the National Grid indirect nonlabor costs and confirmed that PPL's own corporate

allocations capture those costs as well. As an example, IT nonlabor costs were eliminated because they

are accounted for in PPL's IT allocations.

	Contractors	Other	Trans-	Consultants	Materials	Overtime	Employee	Tota
	Contractors	Expenses	portation	Consultants	materials	overtime	Expenses	1012
Electric	\$13.1M	\$0.9M	\$3.0M		\$2.3M	\$1.1M	\$0.7M	\$20.8N
Gas	\$7.0M	\$2.7M	\$4.0M	\$0.9M	\$2.3M	\$4.1M	\$0.6M	\$21.7N
Operations Support	\$1.4M	\$0.2M	\$0.1M	\$0.1M	\$0.0M	\$0.2M	\$0.0M	\$2.1M
Other Direct Opex	\$0.4M	\$0.3M	\$0.0M	\$0.3M		\$0.0M	\$0.0M	\$1.0M
Customer Operations	\$5.3M	\$4.4M	\$0.0M	\$1.2M	\$0.3M	\$0.6M	\$0.1M	\$12.0
Finance	\$0.3M	\$2.8M	-	\$0.3M	\$0.0M	\$0.0M	\$0.0M	\$3.3
Global Legal	\$0.1M	\$0.1M	-	\$1.3M	\$0.0M	\$0.0M	\$0.0M	\$1.5M
Strategy & External Affairs	\$0.1M	\$0.9M	\$0.0M	\$0.6M	\$0.0M	-	\$0.1M	\$1.7 I
Total	\$27.7M	\$12.3M	\$7.2M	\$4.4M	\$5.0M	\$6.0M	\$1.5M	\$64.2

c. PPL Allocations

In addition to direct labor and non-labor costs, PPL will assign and allocate costs for activities performed by the PPL service company to support Narragansett. A description of the activities that PPL will perform on a centralized basis to support Narragansett is outlined below.

Information Technology: costs include PPL's information technology infrastructure, applications, and related service and support.

Finance: costs include Budgeting and Planning Services, Tax Compliance and Planning, Tax Accounting and Reporting, Corporate Accounting, Regulatory Accounting and Reporting, Internal Reporting, Cash Management, Miscellaneous Billing, Remittance Processing, Employee Compensation and Benefits, Financial Training, and related activities.

Office of General Counsel: costs for all legal support, including but not limited to general corporate legal support, labor and employment legal support, state regulatory legal support, federal regulatory legal

support, supply chain support, environmental and real estate related legal support and claims/litigation legal support, as well as Corporate Compliance, Board Services, and related matters.

Transmission & Substation Operations: costs include electric transmission support costs, including asset strategy and management, line design, substation design, project development, and related costs.

Human Resources: costs include employee communications, corporate HR business partner services, HR regulatory/compliance, talent management and diversity, equity and inclusion services, employee training, security services (e.g., background checks), and related costs.

Supply Chain: costs include strategic sourcing, contract administration, supply programs and supplier diversity, staff augmentation, office supplies, printing, travel, investment recovery, and related costs.

Regulatory Affairs: costs include regulatory strategy, electric procurement, electric load forecasting and settlement, and related costs.

Corporate Operations and Integration: costs include data analytics capabilities, primarily related to applying predictive analytics to asset management.

Corporate Systems: costs primarily include finance-related information technology systems, including the UIP budget and model system, treasury systems, financial reporting systems, and related costs.

Communications: costs include market research, customer communications, external/internal communications and graphic design.

Transmission Control Center: costs include full transmission control center support for Narragansett.

Enterprise Security: costs include corporate cyber security risk management, as well as related business line support.

Public Affairs: costs include providing community relations functions, communicating public information to local organizations, and providing oversight for communications to employees.

Customer Service: costs include support for electric meter data and operations, as well as customer strategy and digital transformation.

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Corporate Audit Services: costs include Audit-SOX testing and compliance, and general auditing services. **Executive Office:** includes the allocated portion of certain executive costs, including the Office of President and Strategic Development.

Distribution Operations: costs include certain electric distribution support costs, including distribution line standards, third-party attachments, and related costs.

Facilities: costs include real estate tax services, project and contract management services, and related costs.

Technical Development & Instruction: costs include technical development and instruction costs, including costs related to environmental contracts, safety equipment training, training recordkeeping, eLearning development, and fleet standards.

PPL Services: costs include non-support group specific PPL Services' costs, including rent, stock and incentive compensation, and high-level benefits adjustments.

PPL developed an estimate of the costs in each of these functions that includes any incremental costs to support Narragansett. PPL then applied its cost allocation methodology to assign and allocate costs to Narragansett. This methodology includes direct charges when identified, utilization of causal factors where appropriate, and application of a composite factor (e.g., number of employees, amount of invested capital, and operation and maintenance expenses) when costs cannot be directly charged or causally allocated. PPL derived this estimate based on input from the integration planning teams as to the level of incremental costs required to support Narragansett as well as PPL finance personnel responsible for business planning.

An estimate of the costs PPL anticipates assigning and allocating to Narragansett is shown in **Table 7**.

Table 7. PPL Allocated Costs, by Category					
	Total				
IT	\$33.8M				
Finance	\$9.8M				
Office of General Counsel	\$4.7M				
Transmission & Substation	\$4.4M				
Human Resources	\$5.0M				
Supply Chain	\$3.8M				
Regulatory Affairs	\$1.9M				
Corporate Operations and Integration	\$1.8M				
Corporate Systems	\$1.4M				
Communications	\$1.0M				
Transmission Control Center	\$1.0M				
Enterprise Security	\$0.8M				
Public Affairs	\$0.7M				
Customer Service	\$0.6M				
Audit Services	\$0.6M				
Executive Office	\$0.6M				
Distribution Operations	\$0.4M				
Facilities	\$0.3M				
Technical Development & Instruction	\$0.3M				
PPL Services	\$10.2M				
Total Allocated Costs	\$83.4M				

d. Allocated Depreciation

PPL also estimated the depreciation for PPL corporate investments that benefit Narragansett. For example, PPL assigned and allocated the depreciation from PPL's IT applications and infrastructure, as well as corporate facilities, to Narragansett utilizing the cost allocation methodology described earlier⁴. **Table 8** below summarizes PPL's depreciation allocation.

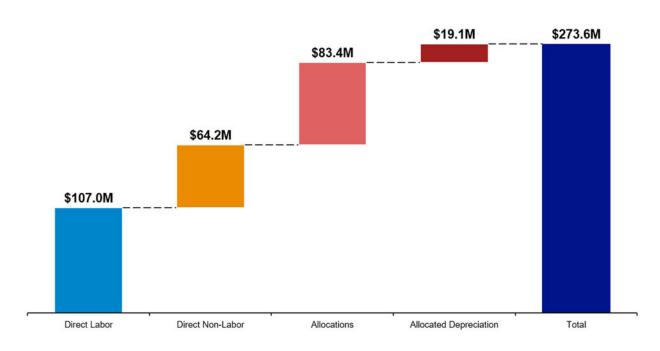
Table 8. PPL Allocated Depreciation	
	Total
Allocated Depreciation	\$19.1M
Total	\$19.1M

⁴ PPL has not included depreciation resulting from incremental IT and other infrastructure investment to maintain a comparable basis to National Grid allocated depreciation.

e. Total PPL Managed Cost Summary

PPL's anticipated assigned and allocated costs to operate Narragansett in direct labor, direct non-

labor, allocations and depreciation are summarized in Figure 3 below.





V. Cost Summary Comparison

a. Total Cost Summary Comparison

Using the methodologies described in this document, PPL's anticipated Narragansett operating costs of \$273.6M are approximately \$12M lower than National Grid's current Narragansett operating costs of \$285.5 M as summarized in **Figure 4** below.

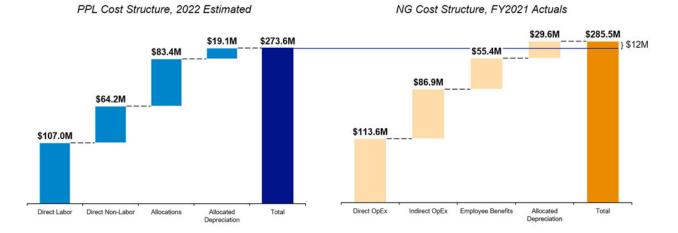


Figure 4. Comparison: NG and PPL Managed Cost Buildups

To provide further context into the differences between PPL and National Grid operating costs, PPL developed functional comparisons across the major operating areas of electric, gas, customer and corporate. Developing these comparisons required PPL to make certain assumptions to derive comparable costs bases (e.g., PPL proportionately allocated National Grid benefit costs to functions to derive a fully loaded functional labor cost).

b. Functional Cost Summary Comparisons

Electric Operations: PPL's cost build-up estimates total direct labor and non-labor cost to operate the Narragansett electric business to be \$53.9M. This includes the costs associated with the direct operations as well as those electric operation support costs assigned and allocated from PPL's service company. This compares to National Grid's electric operations costs of \$57.6M. The establishment of a dedicated Rhode Island electric organization that applies PPL's operating practices results in slightly lower costs relative to National Grid. A comparison of these costs is provided in **Figure 5** below:

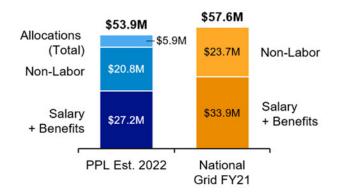


Figure 5. Electric Cost Comparison

Gas Operations: PPL's cost build-up estimates the total direct labor and non-labor cost to operate the Narragansett gas business to be \$67.4M. This compares to National Grid costs of \$59.9M. This higher cost reflects the establishment of a dedicated gas organization described earlier that includes functions such as gas control, pipeline safety and gas procurement – functions currently shared in National Grid's model. The Rhode Island Division of Public Utilities and Carriers, in its report on its investigation into the January 2019 gas service interruption on Aquidneck Island, recommended the establishment of more local, direct control of gas operations, including these functions. **Figure 6** below illustrates a comparison of these costs:

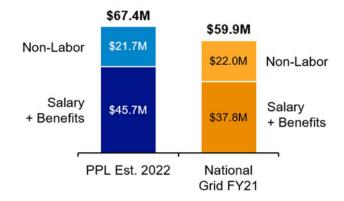


Figure 6. Gas Cost Comparison

Customer: PPL's cost build-up estimates the total direct labor and non-labor cost to support Narragansett customer operations to be \$32.5M. This compares to \$28.3M for comparable services under National Grid. PPL is planning to invest in a Rhode Island-based customer care center and back-office operations and program support, resulting in a dedicated presence to support these functions, whereas National

Grid's back-office and program support is provided on a shared basis. Establishing a customer care center in Rhode Island will provide Rhode Island customers with Rhode Island-dedicated customer service employees who are familiar with the service territory and issues specific to Rhode Island customers. As a result, the costs to support the customer function in Rhode Island are anticipated to be higher than those under National Grid. **Figure 7** below compares these costs:

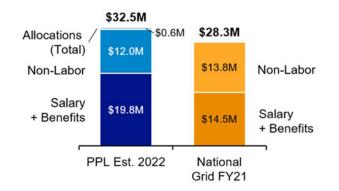
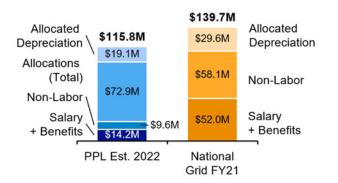


Figure 7. Customer Cost Comparison

c. Corporate Cost Summary Comparisons

Total Corporate: For purposes of this comparison, Total Corporate costs are all costs, excluding Electric Ops, Gas Ops, and Customer costs. These costs include the total estimated labor and non-labor costs from activities provisioned from the service company inclusive of the allocated depreciation of corporate owned assets supporting Rhode Island. PPL estimates total corporate costs to be \$119.8. This compares with \$139.7M under National Grid for comparable functions and services. A high-level comparison of these costs is provided in **Figure 8**, with further analysis and comparison for select functions provided below:

Figure 8. Total Corporate Cost Comparison



IT: PPL IT costs are inclusive of labor, service and maintenance contracts, licensing fees and other related expenses. PPL's total estimated cost to provide IT support to Narragansett is \$36.0M compared to \$40.2M under National Grid as shown in **Figure 9**. PPL intends to provide IT services on a centralized basis that allows for scale benefits to be extended to Narragansett.

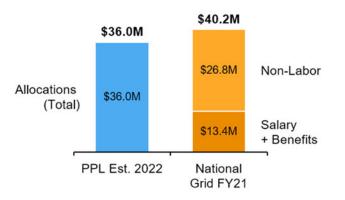


Figure 9. IT Cost Comparison

Finance: PPL's total estimated costs for Finance support to Narragansett are \$16.2M. These costs include both assigned and allocated costs from the service company (such as accounting and tax support, audit, budgeting and planning activities, etc.) as well as the direct Finance organization costs incurred in Rhode Island (including financial performance reporting and property accounting). This compares to National Grid Finance costs of \$15.1M as shown in **Figure 10**.

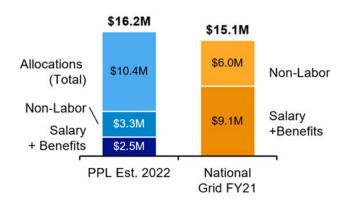


Figure 10. Finance Cost Comparison

HR: PPL's total estimated costs to provide HR support to Narragansett is \$5.6M. These costs include both the assigned and allocated costs from the service company (such as talent management, employee training and employee communications) as well as the direct HR organization costs incurred in Rhode Island, including dedicated labor relations support. This compares to National Grid HR costs of \$2.8M as shown in **Figure 11**.





Regulatory/Government Affairs: PPL's total estimated costs to provide Regulatory and Government Affairs support to Narragansett is \$7.8M. These costs include both the assigned and allocated costs from the service company (including electric forecasting, electric procurement and settlement, and community relations support) as well as the direct Regulatory/Government Affairs costs incurred in Rhode Island (including Rhode Island government relations and economic and community development). This

compares to the National Grid costs of \$8.0M as shown in **Figure 12**.

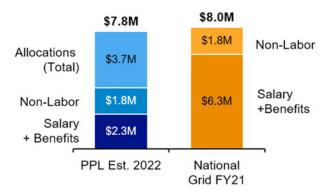


Figure 12. Regulatory/Government Affairs Cost Comparison

Allocated Depreciation: PPL has estimated charging a total of \$19.1M in allocated depreciation to Narragansett. These costs reflect the share of existing corporate investments, such as IT infrastructure and corporate facilities that benefit Rhode Island. This compares to \$29.6M under National Grid. This comparison is shown in **Figure 13**.



Figure 13. Allocated Depreciation Comparison

VI. Cost Summary Comparison

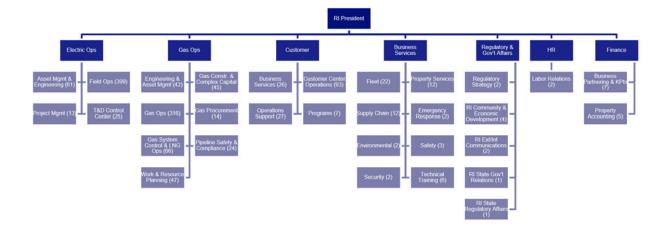
PPL developed this analysis based on its review of National Grid's current costs to operate Narragansett and meetings with National Grid subject matter experts. PPL's intended operating model for Narragansett provided the basis from which PPL developed its anticipated costs to operate Narragansett. Input from PPL's integration planning teams, finance and business planning teams and other subject matter experts was provided based on the best information available at this time to derive an estimate of anticipated costs to operate. Based on the operating model differences between National Grid and PPL, the functional cost differences observed are both explainable and reasonable. PPL believes the implementation of a dedicated organization to serve the customers of Rhode Island with a renewed focus on local control and management, and safe, reliable operations will not increase costs to operate Narragansett.

Pass-Through Costs	
Commodity	\$523.7M
DSM	\$115.7M
GET Expenses	\$54.7M
Wheeling	\$221.3M
Less Trans. Credit from Associate	(\$159.9M)
Total Pass-Through Costs	\$755.5M
Managed Costs	
Total Direct Opex	\$113.6M
Total Indirect Opex	\$86.9M
Total Employee Benefits	\$55.4M
Allocated Depreciation	\$29.6M
Total Managed Costs	\$285.5M
Depreciation & Amortization	\$134.2M
Total Operating Taxes	\$78.8M
Storm	\$34.9M
Bad Debt	\$33.1M
Other	\$13.4M
otal Narragansett Costs	\$1,335.4M

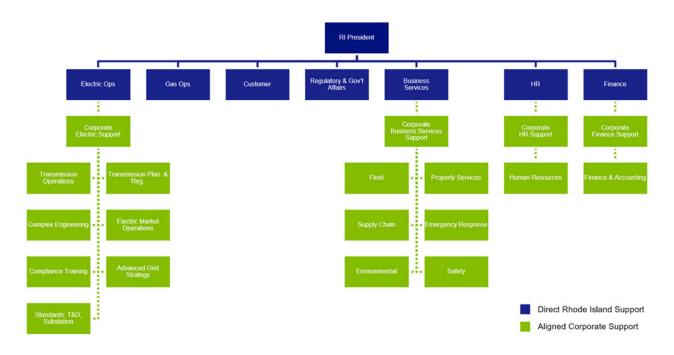
Appendix 2a. National Grid RI Narragansett Total Cost Structure - Reconciliation to Published Financial Statements, FY2021				
	Analysis Model	Adjustments	2021 Audited Income Statement	
Operating Revenues	\$1,547.2M	\$0.6M	\$1,547.8M	
Operating Expenses				
Purchased electricity	(\$361.2M)	\$0.5M	(\$360.7M)	
Purchased gas	(\$162.5M)		(\$162.5M)	
Operations and maintenance	(\$598.7M)	\$78.1M	(\$520.5M)	
Depreciation	(\$134.2M)	\$0.5M	(\$133.8M)	
Other taxes	(\$78.8M)	(\$63.6M)	(\$142.4M)	
Total Operating Expenses	(\$1,335.4M)	\$15.5M	(\$1,319.9M)	
Operating Income	\$211.8M	\$16.1M	\$227.9M	
Other income and (deductions)	(\$47.0M)	(\$16.1M)	(\$63.1M)	
Income before Income Taxes	\$164.8M		\$164.8M	
Income Taxes	(\$29.8M)		(\$29.8M)	
Net Income	\$135.0M		\$135.0M	

Appendix 2b. National Grid RI Narragansett T Structure - Reconciliation to Published Finan Statements Detail, FY2021	
Revenue Adjustments	
Other Misc	(\$1.0M)
Oth Exp-Sup & Admin-IC Billed Out	\$0.6M
ISR Deferral-Equity-Elec	\$0.2M
ISR Deferral-Equity-Gas	\$0.8M
Total	\$0.6M
Purchased Electricity Adjustments	
Electric Commodity moved to O&M	\$0.5M
Total	\$0.5M
O&M Adjustments	
Electric Commodity moved to O&M	(\$0.5M)
Other employee benefit moved to Other Taxes	\$8.9N
GET moved to Other Taxes	\$54.7M
Other Misc	\$1.0N
Oth Exp-Sup & Admin-B/sheet Settlement	(\$0.6M)
Amortization-Regulatory Debits	(\$0.4M)
Below the line Adjustments	\$15.1M
Total	\$78.1M
Depreciation Adjustments	
Misc non Operating income	\$0.0M
Amort Reg Debits	\$0.4M
Total	\$0.5M
Other Taxes Adjustments	
GET moved from Controllable Cost	(\$54.7M)
Other employee benefit moved from Controllable Cost	(\$8.9M)
Total	(\$63.6M)
Other Income**	-
Below the Line Adjustments**	(\$15.1M)
ISR Deferral-Equity-Elec	(\$0.2M)
ISR Deferral-Equity-Gas	(\$0.8M)
Misc non Operating income	(\$0.0M)
Total	(\$16.1M)
** Primarily the non-service cost portion of the pension/OPEB expense, donal and other income/deductions that fall outside of ratemaking	tions, penalties,

Appendix 3: PPL Rhode Island Direct Organizational Structure



Appendix 4: PPL Rhode Island Aligned Corporate Functional Support



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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-14

Request:

Please: (A) state whether PPL or any of its affiliates has prepared and/or implemented any of the following plans, programs, or studies; and (B) if the answer is yes, provide at least one example of such plan or study and state the jurisdiction and utility system in which it was implemented:

- a. System electrical long range plan;
- b. Distribution system area study or equivalent;
- c. Energy Efficiency program plan or equivalent;
- d. Distribution capital investment plans similar to the Infrastructure, Safety and Reliability Plan developed in Rhode Island;
- e. Non-wires studies;
- f. System heat maps or other distributed energy resources (DER) tools;
- g. System Reliability Procurement standards and studies; and
- h. Power Sector Transformation standards and studies.

To the extent relevant, any example of a plan provided or a regulatory filing should include all models in original software and PDF formats, all tables in Excel format, and any associated regulatory docket information.

Response:

a. System electrical long range plan:

PPL's affiliates have submitted system electrical long range plans.

PPL Electric Utilities Corporation ("PPL Electric") supports PJM Interconnection ("PJM") in the creation of the Regional Transmission Expansion Plan ("RTEP") as laid out in PJM Manual 14 (<u>https://www.pjm.com/-/media/documents/manuals/m14b.ashx</u>). PPL Electric also conducts a series of independent studies on its transmission system based on the PPL Planning Criteria

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 Division's Second Set of Data Requests Issued on June 11, 2021

(<u>https://www.pjm.com/-/media/planning/planning-criteria/ppl-planning-criteria.ashx</u>). The results of these studies become part of the long range (5-year) transmission plan.

PPL Electric has prepared and implemented a long-range plan in terms of investment planning, referred to as PPL Electric's Long Term Infrastructure Improvement Plan ("LTIIP") for the period of January 1, 2018 through December 31, 2022. Under Pennsylvania Act 11 legislation, through the filing and approval of this plan, PPL Electric is able to implement a Distribution System Improvement Charge ("DSIC") to recover reasonable and prudent costs incurred to repair, improve, or replace distribution property. In 2017, PPL Electric's second LTIIP was filed and approved and is provided as Attachment PPL-DIV 2-14-1.

Additionally, PPL Electric also has prepared and implemented its Biennial Inspection, Maintenance, Repair and Replacement Plan which outlines its inspection and maintenance protocol in compliance with the Pennsylvania Public Utility Commission requirements. The current 2020-2021 Biennial Inspection, Maintenance, Repair and Replacement Plan is provided as Attachment PPL-DIV 2-14-2.

The Louisville Gas & Electric and Kentucky Utilities Corporation ("LG&E/KU") transmission department perform an annual system electrical long range plan called the Transmission Expansion Plan ("TEP"). The purpose of the TEP is to reliably plan the combined LG&E/KU transmission systems (69kV and above) to meet future transmission customer needs. The TEP process is detailed in LG&E/KU's Open Access Transmission Tariff, which is required and approved by the Federal Energy Regulatory Commission. An example of the TEP is provided as Attachment PPL-DIV 2-14-3 CONFIDENTIAL. This attachment includes Critical Energy Infrastructure Information.

b. Distribution system area study or equivalent:

PPL Electric performs Proactive Circuit Analyses ("PCA") of each distribution feeder/circuit on a four-year cycle. The review analyzes and addresses both the operational and the reliability characteristics of each circuit. Voltage support, phase balancing, protection coordination, power factor maintenance and loading issues are addressed from an operational perspective. Service outage analysis, exposure analysis, and field checks address reliability and power quality. Two example reports are provided as Attachment PPL-DIV 2-14-4.

LG&E and KU creates an annual non-coincidental forecast for both LG&E and KU delivery points. This data is used to develop our capacity expansions for new loads. It is based on the expected growth from the past 10 years of data and new loads under contract.

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c. Energy Efficiency program plan or equivalent:

PPL Electric has prepared and implemented energy efficiency plans, programs and studies for the past 12 years in Pennsylvania. These programs cover the full spectrum of PPL Electric's customer base, which includes residential, low income, small and medium business, and commercial and industrial sectors. PPL Electric's current energy efficiency and conservation plan in Pennsylvania is provided as Attachment PPL-DIV 2-14-5. Additional information can be found at https://pplelectric.com/ways-to-save/for-act-129-stakeholders.

In 2018, LG&E/KU received approval for their latest 2019-2025 Demand-Side Management and Energy Efficiency Program Plan from the Kentucky Public Service Commission (KPSC). The Plan was assigned to Case No. 2017-00441 and can be found on the KPSC website here: <u>https://psc.ky.gov/PSC_WebNet/ViewCaseFilings.aspx?case=2017-00441</u>.

d. Distribution capital investment plans similar to the Infrastructure, Safety and Reliability Plan developed in Rhode Island:

For PPL Electric, please see the response to subpart (a), above.

LG&E and KU recently filed the 2021-2025 Distribution Reliability and Resiliency Plan with the Kentucky Public Service Commission, which can be found on the KPSC website here: <u>https://psc.ky.gov/pscecf/2020-00350/rick.lovekamp%40lge-ku.com/11252020085918/10-</u> <u>LGE Testimony_10f4%28Thompson_Blake_Bellar_Sincliar_Wolfe_Saunders%29.pdf</u> at Exhibit JKW-1

e. Non-wires studies:

PPL Electric's internal Transmission and Distribution planning process' incorporate evaluating non-wires alternatives as potential solutions in resolving system reliability concerns and issues. As an example, in 2019 PPL Electric installed and commissioned a distribution system battery to address a regional reliability concern on a specific circuit that has seen historical outages. Additional studies are currently underway in evaluating potential non-wires solutions on our distribution system as potential solutions for identified circuits for potential performance improvement.

PPL Electric is actively installing Dynamic Line Ratings ("DLR") sensors on 230 kV transmission lines to address the market congestion identified by PJM in the 2020-21 Market Efficiency window. The DLR sensors allow for updates to the transmission system rating based on real time ambient conditions, can provide a significant increase in rating during favorable weather conditions, and will allow the PPL Electric to forego investments in traditional projects that would

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have required re-conductoring of lines with higher capacity conductors to address the same congestion issue.

f. System heat maps or other distributed energy resources (DER) tools:

Beginning in 2017, PPL Electric executed the Keystone Solar Future pilot program which allowed us to remotely communicate with and manage customer DER systems on select feeders in our service territory. Expanding on this pilot, PPL Electric was approved to implement a three-year DER Management pilot program on 1/1/2021 to test and evaluate the costs and benefits of monitoring and actively managing inverter-based DER. This program, now system wide, leverages the Company's Advanced Distribution Management System ("ADMS") and the associated Distributed Energy Resource Management ("DERM") platform to communicate with DER's to improve the accuracy of planning and interconnection impact studies, hosting capacity, and masked or hidden load. Below are links to the details of this pilot program:

https://www.pplelectric.com/site/-/media/PPLElectric/At-Your-Service/Docs/Current-Electric-Tariff/rule12.ashx

https://www.puc.pa.gov/pcdocs/1679576.pdf

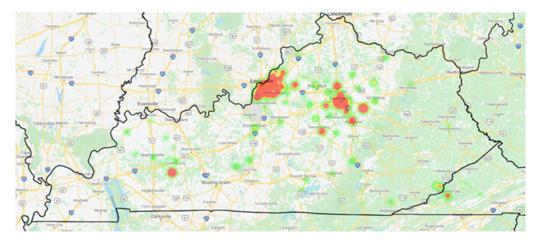
https://www.puc.pa.gov/pcdocs/1694930.pdf

https://www.pplelectric.com/site/More/For-Construction/DER-Management

In addition, PPL Electric built and deployed the Renewable Energy Connection Web Portal, which provides customers with an easy method to apply for interconnection and receive a response from PPL Electric within a day and without manual intervention.

LG&E and KU have prepared a heat map showing the approximate location and capacity of DER connected in the LG&E and KU service area through the end of Q1 2021. The map shows that most of the DER interconnections are in the Louisville, KY and Lexington, KY areas with a few distributed throughout the more rural regions of the service area. This map is included below:

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g. System Reliability Procurement standards and studies:

PPL Electric under the PA PUC requirements reports and evaluates system reliability performance and conducts studies to address circuit performance as required to improve reliability. This evaluation considers reliability trends and opportunities for system resiliency optimization. Capital investments to improve reliability are data driven and incorporate traditional and non-traditional system reinforcements. These also include non-wires alternatives solutions, automated sectionalizing and DER management solutions. In addition, PPL Electric evaluates and benchmarks its Transmission and Distribution system performance nationally to other similar sized utilities through IEEE Std 1366-2012. A copy of this IEEE standard is attached as Attachment PPL-DIV 2-14-6.

Pursuant to 807 KAR 5:058, LG&E and KU file integrated resource plans every three years with the Kentucky Public Service Commission which lay out their load forecasts and resource plans to meet future demand with an adequate and reliable supply of electricity at the lowest possible cost for all customers within their service areas. LG&E and KU's most recent IRP was assigned to 2018-00348 Case No. and can be found on the **KPSC** website here: https://psc.ky.gov/Case/ViewCaseFilings/2018-00348.

h. Power Sector Transformation standards and studies:

PPL Electric has not prepared or implemented any power sector transformation standards or studies as defined by the Power Sector Transformation Initiative undertaken by the Rhode Island Public Utilities Commission, the Office of Energy Resources, and the Rhode Island Division of Public Utilities and Carriers at the direction of the Rhode Island Governor. PPL Electric has, however, developed and implemented a self-healing distribution Smart Grid. Through systemwide studies, PPL Electric identified locations for and installed more than 5400 telemetered distribution

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sectionalizing devices on nearly all distribution circuits throughout the Company's entire service territory. Using the Company's Advanced Distribution Management System (ADMS), Fault Location Isolation and Service Restoration (FLISR) works with the data provided by the telemetered sectionalizing devices, without human intervention, to complete real-time power flow studies and reroute power to customers keeping the outage area contained to the smallest possible footprint. In 2020, PPL Electric surpassed more than 1 Million permanent customer outages avoided due to FLISR and Smart Grid technologies.

PPL Electric has also conducted studies of certain areas and circuits to determine the feasibility of converting the circuit to 100% renewable generation and storage. An example of such a study is provided as Attachment PPL-DIV 2-14-7.

Kentucky

LG&E and KU have not performed any Power Sector Transformation standards or studies. However, LG&E and KU are in the process of implementing smart grid technologies. Through studies and analysis, LG&E and KU have identified locations and installed approximately 1,500 SCADA connected reclosers throughout the Company's service territory which provides benefits to 78% of the Company's customers. At the end of May 2021, LG&E and KU surpassed more than 35.8 million outage minutes avoided and 230 thousand permanent customer outages avoided due to Distribution Automation. In the future, the Company's Advanced Distribution Management System (ADMS), Fault Location Isolation and Service Restoration (FLISR) will work with the data provided by the SCADA connected reclosers, to complete real-time power flow studies and keep outages to a minimal footprint.

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Attachment PPL-DIV 2-14-3

Confidential Attachment PPL-DIV 2-14-3 contains confidential Critical Energy/Electrical Infrastructure Information. PPL and PPL RI has requested protective treatment of this confidential attachment in its entirety.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC NATIONAL GRID USA, and THE NARRAGANSETT ELECTRONIC COMPANY PUBLIC Docket No. D-21-09 Attachment PPL-DIV 2-14-1 Page 1 of 73



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Christopher T. Wright

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August 31, 2017

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary Pennsylvania Public Utility Commission Commonwealth Keystone Building 400 North Street, 2nd Floor North P.O. Box 3265 Harrisburg, PA 17105-3265

Re: Petition of PPL Electric Utilities Corporation for Approval of its Long-Term Infrastructure Improvement Plan for the Period January 1, 2018 through December 31, 2022 - Docket No. P-2017

Dear Secretary Chiavetta:

Enclosed for filing is the Petition of PPL Electric Utilities Corporation for Approval of a Long-Term Infrastructure Improvement Plan. Copies are being served on the statutory advocates and all parties of record to the Company's most recent base rate proceeding at Docket No. R-2015-2469275 as indicated on the Certificate of Service.

Respectfully submitted,

Christopher T. Wright

CTW/jl Enclosures

cc: Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA E-MAIL and FIRST CLASS MAIL

Darryl A. Lawrence, Esquire Lauren M. Burge, Esquire Office of Consumer Advocate 555 Walnut Street Forum Place, 5th Floor Harrisburg, PA 17101-1923

Richard A. Kanaskie, Esquire Bureau of Investigation & Enforcement PO Box 3265 Commonwealth Keystone Building 400 North Street, 2nd Floor West Harrisburg, PA 17105-3265

Steven C. Gray, Esquire Sharon Webb, Esquire Office of Small Business Advocate 300 North Second Street, Suite 202 Harrisburg, PA 17101

Joseph L. Vullo, Esquire Burke Vullo Reilly Roberts 1460 Wyoming Avenue Forty Fort, PA 18704 Commission on Economic Opportunity

Patrick M. Cicero, Esquire Elizabeth R. Marx, Esquire Pennsylvania Utility Law Project 118 Locust Street Harrisburg, PA 17101 *CAUSE-PA* Joseph Otis Minott, Esquire Ernest Logan Welde, Esquire Benjamin Z. Hartung, Esquire Clean Air Council 135 S. 19th Street, Suite 300 Philadelphia, PA 19103 *Clean Air Council*

Eric Joseph Epstein 4100 Hillsdale Road Harrisburg, PA 17112

Kenneth L. Mickens, Esquire 316 Yorkshire Drive Harrisburg, PA 17111-6933 Sustainable Energy Fund

Adeolu A. Bakare, Esquire Pamela C. Polacek, Esquire McNees Wallace & Nurick LLC 100 Pine Street, 2nd Floor Harrisburg, PA 17120 *PP&L Industrial Customer Alliance*

Joseph Otis Minott, Esquire 135 S. 19th Street, Suite 300 Philadelphia, PA 19103 *The Alliance for Solar Choice*

David R. Wooley, Esquire Keyes, Fox & Wiedman LLP 436 14th Street, Suite 1305 Oakland, CA 94612 *The Alliance for Solar Choice* PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC NATIONAL GRID USA, and THE NARRAGANSETT ELECTRONIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment PPL-DIV 2-14-1 Page 3 of 73

Jacob Schlesinger, Esquire Keyes, Fox & Wiedman LLP 1400 16th Street 16 Market Square, Suite 400 Denver, CO 80202 *The Alliance for Solar Choice*

Daniel Clearfield, Esquire Deanne M. O'Dell, Esquire Sarah Stoner, Esquire Eckert Seamans Cherin & Mellott, LLC 213 Market Street, 8th Floor Harrisburg, PA 17101 *KEEA Energy Efficiency Alliance*

Mark C. Szybist, Esquire 1152 15th Street NW, Suite 300 Washington, DC 20005 *Natural Resources Defense Council* Michael Panfil 1875 Connecticut Avenue, N.W. Washington, DC 20009 Environmental Defense Fund

John Finnigan 128 Winding Brook Lane Terrace Park, OH 45174 Environmental Defense Fund

Heather M. Langeland 200 First Avenue, Suite 200 Pittsburgh, PA 15222 Environmental Defense Fund

Date: August 31, 2017

Christopher T. Wright

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

:

:

:

:

Petition of PPL Electric Utilities Corporation for Approval of its Long-Term Infrastructure Improvement Plan for the Period January 1, 2018 through December 31, 2022

Docket No. P-2017-

PETITION OF PPL ELECTRIC UTILITIES CORPORATION FOR APPROVAL OF A LONG-TERM INFRASTRUCTURE IMPROVEMENT PLAN

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

Pursuant to 66 Pa.C.S. § 1352(a) and 52 Pa. Code §§ 121.1 *et seq*, PPL Electric Utilities Corporation ("PPL Electric" or the "Company") hereby requests approval of its second Long-Term Infrastructure Improvement Plan ("LTIIP") for the period January 1, 2018 through December 31, 2022. A copy of the Company's proposed second LTIIP is provided as "**Attachment 1**" to this Petition. This second LTIIP replaces the Company's current LTIIP that was approved on January 10, 2013 at Docket No. P-2012-2325034, which is set to expire on December 31, 2017. Under the second LTIIP, the Company proposes to continue its accelerated repair, improvement, and replacement of aging infrastructure as described below an in further detail in the proposed LTIIP.

PPL Electric respectfully requests that the Pennsylvania Public Utility Commission ("Commission") approve the second LTIIP, as further described in this Petition for the period January 1, 2018 through December 31, 2022.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC NATIONAL GRID USA, and THE NARRAGANSETT ELECTRONIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment PPL-DIV 2-14-1 Page 5 of 73

I. <u>INTRODUCTION</u>

1. This Petition is filed by PPL Electric, a public utility subject to the regulatory jurisdiction of the Commission.

2. PPL Electric's address is PPL Electric Utilities Corporation, Two North Ninth

Street, Allentown, Pennsylvania 18101.

3. PPL Electric's attorneys are:

Kimberly A. Klock (ID # 89716) Amy E. Hirakis (ID #310094) PPL Services Corporation Office of General Counsel Two North Ninth Street Allentown, PA 18101 Phone: 610-774-5696 Fax: 610-774-4102 E-mail: kklock@pplweb.com E-mail: aehirakis@pplweb.com

Christopher T. Wright (I.D. # 203412) Post & Schell, P.C. 17 North Second Street 12th Floor Harrisburg, PA 17101-1601 Voice: 717-731-1970 Fax: 717-731-1985 E-mail: cwright@postschell.com

PPL Electric's attorneys are authorized to receive all notices and communications regarding this filing.

4. PPL Electric furnishes electric distribution, transmission and default supply services to approximately 1.4 million customers throughout its certificated service territory, which includes all or portions of twenty-nine counties and encompasses approximately 10,000 square miles in eastern and central Pennsylvania.

5. PPL Electric is a "public utility," an "electric distribution company" ("EDC"), and a "default service provider" as defined in Sections 102 and 2803 of the Pennsylvania Public Utility Code, 66 Pa.C.S. §§ 102, 2803.

6. On February 14, 2012, Governor Corbett signed into law Act 11 of 2012 ("Act 11"), which amended Chapters 3, 13 and 33 of Title 66 of the Code to allow, among other things, EDCs, natural gas distribution companies, water utilities, wastewater utilities and city natural gas distribution operations to establish a distribution system improvement charge ("DSIC").

7. Act 11 provides utilities with the ability to implement a DSIC to recover reasonable and prudent costs incurred to repair, improve, or replace certain eligible distribution property that is part of the utility's distribution system. Eligible property for EDCs is defined in Section 1351 of the statute. *See* 66 Pa.C.S. § 1351(1). As a precondition to the implementation of a DSIC, a utility must file an LTIIP with the Commission that is consistent with the provisions of Section 1352 of the statute. *See* 66 Pa.C.S. § 1352(a).

8. On August 2, 2012, the Commission issued an Implementation Order establishing procedures and guidelines necessary to implement Act 11. *Implementation of Act 11 of 2012*, Docket No. M-2012-2293611 (Order entered August 2, 2012) ("*Implementation Order*"). The *Implementation Order* adopted the requirements established in Section 1352, provided additional standards that each LTIIP must meet, and gave guidance to utilities for meeting the Commission's standards.

9. On January 10, 2013, the Company's current LTIIP was approved by the Commission at Docket No. P-2012-2325034. The Company's current LTIIP expires on December 31, 2017.

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10. On January 15, 2013, PPL Electric filed a petition seeking approval of a DSIC.

By Orders entered May 23, 2013 and April 9, 2015, the Commission approved PPL Electric's DSIC.

11. On December 20, 2014, the Commission's LTIIP regulations became effective.

See 52 Pa. Code §§ 121.1 et seq. The LTIIP regulations provide the elements that an LTIIP must

include to be approved. Specifically, an LTIIP must include the following eight major elements:

(a) Identification of types and age of eligible property owned and operated by the utility for which it is seeking DSIC recovery;

(b) An initial schedule for planned repair and replacement of eligible property;

(c) A general description of location of the eligible property;

(d) A reasonable estimate of quantity of eligible property to be improved or repaired;

(e) Projected annual expenditures and means to finance the expenditures;

(f) A description of the manner in which infrastructure replacement will be accelerated and how repair, improvement or replacement will ensure and maintain adequate, efficient, safe, reliable and reasonable service;

(g) A workforce management and training program designed to ensure that the utility will have access to a qualified workforce to perform work in a cost-effective, safe and reliable manner; and

(h) A description of a utility's outreach and coordination activities with other utilities, Department of Transportation and local governments regarding the planned maintenance/construction projects and roadways that may be impacted by the LTIIP.

52 Pa. Code § 121.3.

12. The Commission's LTIIP regulations further provide that a utility seeking to continue its DSIC mechanism after the expiration of its LTIIP must file a new LTIIP with the

Commission at least 120 days prior to the expiration of the currently-effective LTIIP. 52 Pa. Code § 121.5.

13. PPL Electric's proposed LTIIP addresses each of the eight elements listed in the LTIIP regulations, as summarized in this Petition.

II. PROPOSED LONG-TERM INFRASTRUCTURE IMPROVEMENT PLAN

A. PROPERTY TO BE IMPROVED, REPAIRED AND REPLACED

14. In accordance with the Commission's *Implementation Order*, the LTIIP regulations and statute, PPL Electric has focused its LTIIP on distribution plant that is DSIC eligible. *Implementation Order*, p. 18; 52 Pa. Code § 121.3(b).

15. All of the property PPL Electric has included in its LTIIP meets the definition of eligible property found in Section 1351(1), which includes the following items: poles; overhead conductors; distribution substation equipment; fixtures and devices related to the eligible property such as circuit breakers, fuses, reclosers, and crossarms; unreimbursed costs related to highway relocation projects; and other related capitalized costs.

16. Nearly half of PPL Electric's distribution system was constructed 40 or more years ago as a result of the economic expansion and building boom of the 1960's and 1970's. As this equipment deteriorates due to age, environmental exposure, and added load, it has become increasingly critical to plan for the repair, upgrade, and/or replacement of these assets.

17. The LTIIP covers a broad spectrum of distribution related equipment and facilities, which have been separated into two asset categories. These two categories are (1) distribution assets and (2) substation assets. A description of the items classified as distribution assets can be found on page 17 of the LTIIP, while a description of those items included in the LTIIP as substation assets is found on page 43. (*See* Attachment 1, pp. 17, 43) Within each of these categories, PPL Electric has identified specific programs to address the various elements,

equipment, and facilities that make up each of the two asset classes. Each program is described individually, with an estimated replacement schedule and estimated costs as applicable or appropriate.

18. For each individual program included in the LTIIP, PPL Electric has provided the following information: a description of the program and its purpose; a description of how PPL Electric identifies equipment for replacement within each program and the appropriate course of action to improve identified equipment; the scope of the program, including a reasonable estimate of the quantity of property to be improved where applicable; the location of planned replacements where applicable; and the total amount projected to be spent by the Company annually and over the life of the five-year plan. These detailed profiles of the individual programs are provided in the LTIIP. (*See* Attachment 1, pp. 17-42 for distribution assets, pp. 43-53 for substation assets)

19. Appendix A to the LTIIP provides a summary of the types and average age of eligible property to be replaced. (*See* Attachment 1, p. 54)

B. SCHEDULE FOR REPAIR AND REPLACEMENT

20. The proposed LTIIP covers the five-year period January 1, 2018 through December 31, 2022.

21. The estimated schedule for each individual LTIIP program has been included in the program descriptions. (*See* Attachment 1, pp. 17-42 for distribution assets, pp. 43-53 for substation assets)

22. PPL Electric has estimated the number of replacements in a variety of distribution asset categories over the five-year LTIIP period. In estimating its replacement schedule, a number of factors were considered. Some of the initiatives, such as animal guarding, clearly have implied end-points, where no further opportunities for improvement remain. Others, such as System Average Interruption Duration Index ("SAIDI") improvements, eventually experience diminishing returns over time. Finally some programs, such as pole reinforcement and replacement, will be ongoing.

23. In addition, the programs implemented by PPL Electric are subject to change, as additional analysis is done on the effectiveness of individual programs, or as new issues arise. Some programs may become obsolete, while new programs may become desirable as a result of the evolution of new technologies.

24. The effectiveness of LTIIP programs will be reviewed on a regular basis and programs will be added, deleted, and/or modified, as necessary, to ensure that the expenditures are providing the desired benefits to customers at a reasonable cost. Therefore, while PPL Electric has provided an estimated schedule for when certain replacements will take place, that schedule is subject to change as a result of PPL Electric's ongoing review process and emergent resource requirements.

C. LOCATION OF ELIGIBLE PROPERTY

25. A description of the location of eligible property to be repaired and replaced has been provided on an individual program basis, and is included in the section of the LTIIP that provides individual program descriptions. (*See* Attachment 1, pp. 17-42 for distribution assets, pp. 43-53 for substation assets)

D. REASONABLE ESTIMATE OF THE QUANTITY OF PROPERTY TO BE IMPROVED

26. An estimate of the quantity of eligible property to be improved or repaired, as well as the Company's basis for these estimates, have been provided on an individual program basis, and are included in the section of the LTIIP that provides individual program descriptions. (*See* Attachment 1 pp. 17-42 for distribution assets, pp. 43-53 for substation assets)

E. PROJECTED ANNUAL EXPENDITURES AND MEANS TO FINANCE THE EXPENDITURES

27. The LTIIP provides the Company's projected expenditures on a yearly basis for each of the individual programs for the five-year period, the total projected expenditures for each program at the conclusion of the five-year period, and the overall projected annual and total expenditures for all DSIC eligible distribution property. (*See* Attachment 1, p. 16) In addition, individual program expenditure information is included in the sections describing the each of the individual programs.

28. The Company intends to finance the costs of its DSIC eligible work through its usual financing mechanisms, debt and equity. In each DSIC rate filing, the Company will identify its capital structure and cost of debt, in addition using the Return on Equity as determined in its base rate case proceeding or as defined in the most recent applicable Commission Quarterly Financial Report.

29. In order to ensure that its individual programs are cost-effective investments, PPL Electric will routinely review the effectiveness of its programs. Program and project impacts on SAIDI and System Average Interruption Frequency Index ("SAIFI"), in addition to potential reductions in outage response costs, are compared to the overall program and project costs. PPL Electric utilizes a project prioritization process that defines the cost-effectiveness of programs and projects to ensure effective optimization of reliability investments.

30. PPL Electric utilizes the information from its ongoing reviews of the effectiveness of its programs to determine the most cost-effective strategy for replacing its distribution infrastructure on a going forward basis. Reliability metric performance may result in the redirection of spending to help ensure PPL Electric's ability to meet its identified reliability targets in a cost-effective manner.

F. ACCELERATION OF INFRASTRUCTURE IMPROVEMENT

31. In its *Implementation Order*, the Commission noted that some utilities had already taken substantial steps toward increasing capital investment to address the issue of aging infrastructure. For those utilities, the Commission requested that the LTIIP "reflect how the DSIC will maintain or augment acceleration of infrastructure replacement and prudent capital investment." *Implementation Order*, p. 19.

32. As described in the LTIIP PPL Electric has already significantly increased its capital expenditures on distribution related infrastructure over historical spend. (*See* Attachment 1, p. 12, Figures 5 and 6) From 2009 to 2012, PPL Electric more than doubled the amount it was investing in capital infrastructure. The Company continued to accelerate its capital investment from 2013 to 2017, the five-year period of the Company's current LTIIP.

33. Consistent with the Commission's *Implementation Order*, PPL Electric has projected to continue its accelerated investment for eligible property for the period of 2018 through 2022. (*See* Attachment 1, pp. 15-16)

34. PPL Electric believes that repair, improvement, and replacement of aging distribution equipment and facilities will ensure that the Company can reduce the number of outages that are the result of equipment failure, which will directly improve the reliability of service provided by PPL Electric to its customers.

35. PPL Electric is aware of the direct impact the equipment included in the LTIIP has on its reliability metrics. (*See* Attachment 1, Appendix B) PPL Electric will use these metrics to monitor the success of its LTIIP programs. The programs included in the LTIIP are expected to prevent the growth in failures caused by aging equipment, and will eventually reduce the number of equipment failures experienced on PPL Electric's distribution system.

G. WORKFORCE MANAGEMENT AND TRAINING PLAN

36. The Company's workforce management and training program is described in the LTIIP. (*See* Attachment 1, pp. 13-15)

37. PPL Electric's workforce is comprised of both those employees who work directly for PPL Electric, and the workers who are hired by contractors of PPL Electric.

38. PPL Electric utilizes a wide variety of programs and tools to ensure that it has a qualified workforce.

39. As a measure to ensure the use of a qualified workforce, PPL Electric has adopted the definition of a Qualified Electrical Worker from the Occupational Safety and Health Administration ("OSHA") Regulation 29 CFR 1910.268 Electrical Power Generation, Transmission and Distribution, which is defined in the PPL Safety Rule Book and is provided to each employee. This OSHA standard is also incorporated into PPL Electric's training and qualification process for all electrical workers.

40. PPL Electric administers a rigorous, formal training and evaluation process for all of its directly employed qualified electrical workers. Training is required before an employee may perform work independently on exposed, energized electrical equipment greater than 50 volts, and these programs are unique to the job classification and work being performed by individual employees. The training is provided by experienced training professionals with developed curriculum. The extensive training may require up to five years to complete, with regular assessment and incremental qualifications throughout the duration of the training program. Retraining is conducted on a periodic basis as required by OSHA or more frequently when determined necessary.

41. In preparation for turnover associated with an aging workforce, PPL Electric developed a long range Strategic Workforce Plan ("SWP"). The SWP provides a fifteen-plus

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year analysis of the projected employee turnover by job category and year, projections on worker availability, and strategies for both sourcing and recruiting, in order to ensure the long-term ability of PPL Electric to attract, hire, develop, and retain qualified workers.

42. For its contractors, PPL Electric's Contract Management department administers a standard process for soliciting contractors to perform work identified to be completed by independent contractors. Part of that process includes evaluating the qualification of contractors to perform work (both technical and financial capabilities to meet the contractual commitments, and level of qualification of employees), and may include reference checks if appropriate. Most independent contractors employ personnel through the building trades, which includes Union apprenticeship programs to help ensure that employees are qualified to perform assigned work. Employee qualification programs for non-Union independent contractors are stringently reviewed to assess the contractor's training program, such as on-the-job training and certification programs.

43. PPL Electric monitors contractor performance through several activities that may include direct job oversight through on-site supervision, monthly scorecards that evaluate such areas as job quality, safety performance, cost, and validating billing activities that meet contractual expectations.

H. OUTREACH AND COORDINATION ACTIVITIES

44. PPL Electric's outreach and coordination activities with other utilities, the Pennsylvania Department of Transportation, and local governments are described in the LTIIP. (*See* Attachment 1, p. 13) PPL Electric has established procedures for communicating with such entities regarding projects.

III. NOTICE AND EVIDENTIARY HEARINGS

45. Pursuant to the Commission's regulations, PPL Electric is serving this Petition and the attached LTIIP are being served on the statutory advocates and all parties of record to the Company's most recent base rate proceeding at Docket No. R-2015-2469275.

46. Neither Act 11 nor the Commission's regulations require hearings on proposed LTIIP.

47. The regulations provide that comments to proposed LTIIPs are to be filed within 30 days of the proposed LTIIP, and that comments that raise material factual issues will result in the LTIIP being referred to the Office of Administrative Law Judge. *See* 52 Pa. Code § 121.4(c). Accordingly, it is unknown at this time whether PPL Electric's proposed second LTIIP will be subject to evidentiary hearings.

IV. <u>CONCLUSION</u>

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that the Pennsylvania Public Utility Commission approve the second Long-Term Infrastructure Improvement Plan for the period January 1, 2018 through December 31, 2022, as set forth in this Petition and the attachment hereto.

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Dated: August 31, 2017

Respectfully submitted,

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VERIFICATION

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF LEHIGH

I, Stephen J. Gelatko, Director- Distribution Asset Planning, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Jelitho STEPHEN J. GELATKO

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC NATIONAL GRID USA, and THE NARRAGANSETT ELECTRONIC COMPANY **PUBLIC** Docket No. D-21-09 Attachment PPL-DIV 2-14-1 Page 17 of 73

Attachment 1

Long-Term Infrastructure Improvement Plan

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Introduction

PPL Electric Utilities Corporation ("PPL Electric" or "Company") is submitting this Long Term Infrastructure Improvement Plan ("LTIIP") pursuant to the requirements of Subchapter B, Distribution Systems, of the Public Utility Code, 66 Pa.C.S. §§ 1350-1360, the Public Utility Commission's ("PUC") Implementation Order for Establishment of a Distribution System Improvement Charge, entered on August 2, 2012 at Docket No. M-2012-2293611 and the Commission's regulations at 52 Pa. Code §§ 121.1 et seq. This LTIIP addresses a broad spectrum of Distribution Asset Management initiatives that the Company will use to continue its accelerated repair, improvement and replacement of aging infrastructure under this process, and is for the five-year period beginning January 1, 2018 and ending December 31, 2022..

PPL Electric strives to operate as efficiently as possible by performing the work required to maintain system integrity and reliability. Performance indicators such as System Average Interruption Frequency Index ("SAIFI"), Customer Average Interruption Duration Index ("CAIDI") and System Average Interruption Duration Index ("SAIDI") show that PPL Electric has been successful in its efforts. However, an increasing trend in equipment failures, combined with an aging infrastructure, indicate that PPL Electric has reached a point where extensive and accelerated investment in the distribution system is required. As equipment failures continue to rise, PPL Electric has been experiencing a significant increase in maintenance spending beyond normal inflationary pressures. The driver is a combination of both increased corrective and planned maintenance. PPL Electric has initiated and enhanced maintenance practices and programs to repair, improve, or replace certain distribution facilities in order to ensure adequate, efficient, safe and reliable service. PPL Electric began the implementation of the identified improvements in 2009 as a result of its "Asset Optimization Strategy" initiative, discussed later in this document, and has since continued to accelerate its capital investments through its current Commission-approved LTIIP.¹

Addressing aging infrastructure will require continuation of an accelerated level of investment. Such investment includes not only replacing aging equipment, but also investment in advanced equipment and communication technologies that can facilitate further system reliability improvements. If accelerated, proactive re-investment does not occur, it is expected that system reliability will degrade, while the overall cost to maintain the distribution system will continue to rise. By investing in its distribution system on an accelerated basis, PPL Electric will ensure that its system continues to be safe, reliable, and able to meet the growing needs and expectations of its customers.

PPL Electric believes that managing finite resources to produce optimal results is essential for maintaining customer satisfaction. Criteria for program inclusion into the Long-Term Infrastructure Improvement Plan is not whether any single activity produces a positive reliability result, but rather, which portfolio of accelerated activities produces the best result for a given expenditure. PPL Electric's goal is focused on results (i.e., the reliability experienced by customers and associated rate impacts), not the rote execution of particular tasks.

<u>Reliability Experience</u>

The Distribution Asset Planning process employed by PPL Electric has been focused on maintaining reliability at the level that existed prior to passage of the Electricity Generation Customer Choice and Competition Act ("Customer Choice Act"). Since the 1994-1998 benchmark period, which defines PPL Electric's reliability

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¹ In 2013 the Company obtained Commission approval of its current LTIIP for the period beginning January 1, 2013 through December 31, 2017, at Docket No. P-2012-2325034.

performance targets, PPL Electric's service reliability has experienced annual swings, positive and negative, resulting largely from varying weather conditions. Increased and accelerated levels of funding for distribution reliability programs will help to ensure more consistent performance below the PUC benchmark. Historical benchmark performance is illustrated in Figures 1 and 2.

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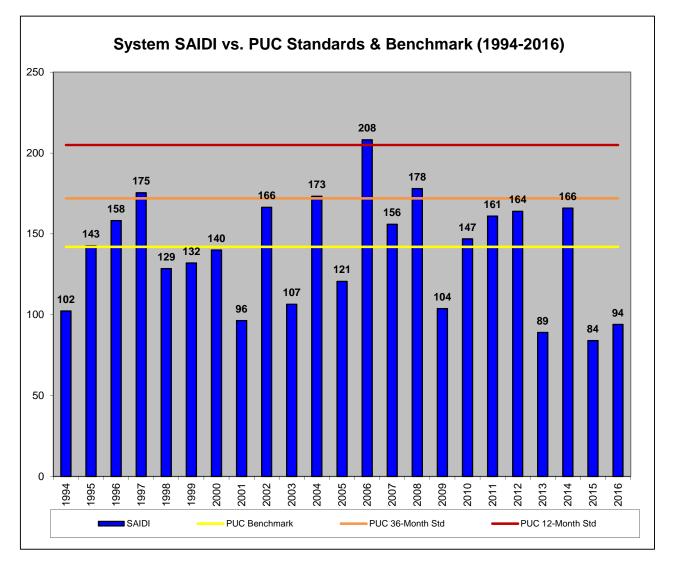


Figure 1: PPL Electric's SAIDI Performance

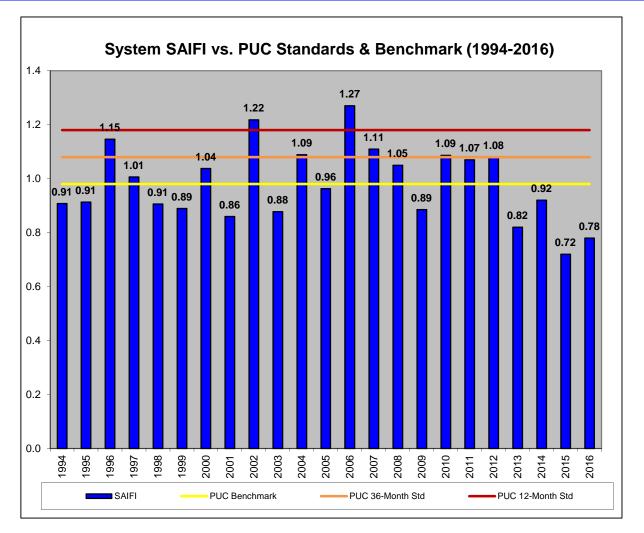


Figure 2: PPL Electric's SAIFI Performance

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A significant risk to PPL Electric's ability to meet reliability benchmarks is the large portion of distribution facilities, many of which were installed in the 1960's and 1970's, that are now beyond or nearing the end of their design lifetime. See Appendix A for average age of major units of property. The resultant effect on non-storm-related equipment failures is illustrated by the chart in Figure 3(a) below.

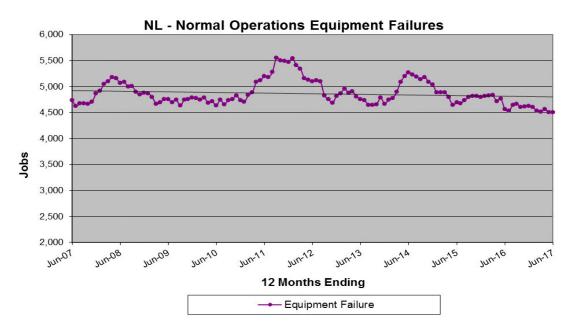


Figure 3a: Equipment Failure Service Interruption Cases

The number of no-light cases due to equipment failures is now trending downward due to investments over the past five to ten years, after having trended upward from 2001 through 2006 (see Figure 3B below). The need to remediate that equipment which is at or near end-of-life remains in order to maintain this favorable trajectory. Components contributing the most significantly to distribution equipment failures include poles/arms/attachments, overhead conductors, and substation equipment. See Appendix B for further details on asset contribution to reliability metrics.

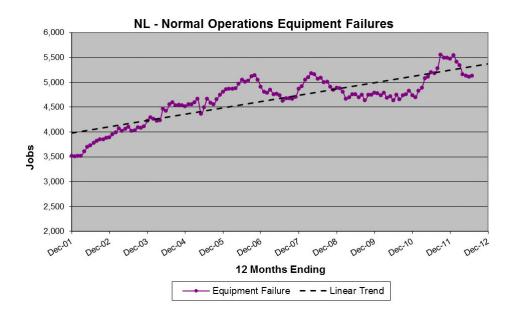


Figure 3b: Equipment Failure Service Interruption Cases 2001-2012

Response to Increasing Equipment Failure Rate

PPL Electric's reliability investment process is forward-looking and proactive. It consists of the following:

- Analyze and identify the drivers of historical trends of causes of service outages and other power service problems.
- Forecast future reliability metrics (SAIDI, SAIFI, and CAIDI) given existing mitigation programs' effect on the identified drivers.
- Identify new programs, policies, and activities to enhance or accelerate existing mitigation programs to avoid forecasted gaps between future reliability and benchmark targets.
- Identify, evaluate, and implement new technologies that enhance the Company's condition monitoring strategy.
- Evaluate and adjust existing programs, policies, and activities to produce the desired future results.
- Perform targeted data analytics against our aging infrastructure utilizing real-time, or near real-time, operational data to further improve reliability performance.
- Incorporate the resulting portfolio of existing and new programs, policies, and activities in PPL Electric's five-year business plan.

In June 2011, PPL Electric's Reliability Principles and Practices ("P&P") were revised to help reduce the overall impact to our customers from outages due to various causes, including but not limited to, equipment failures. The

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P&P sets forth a set of Principles that PPL Electric follows to plan, protect and operate the Electrical Distribution System ("EDS"). These Principles are implemented through a set of standard Practices that are used as guidelines in designing the EDS. These Practices are reasonable, acceptable and are in accordance with leading utility practices. More specifically, to reduce the number of customers experiencing permanent outages and outage duration over the long term, the following circuit design guidelines are used wherever practical, starting with those identified as Worst Performing Circuits ("WPCs"):

- Limit the line length to approximately 50 circuit miles;
- Limit customer count to less than 1,300 customers per circuit;
- Ensure the circuit has three-phase tie lines, and these tie lines will support the transfer of 50% of the customers for at least 95% of the hours in a year; and
- Use line automation to restore at least 50% of the customers by System Operator-controlled switching or automated switching.

Prioritization utilizing these design criteria is based on the greatest expected improvement in reliability for the entire system.

Several other mitigation initiatives have been undertaken to reduce the forecasted short-term equipment failure growth rate.

- Enhanced Pole Inspection/Treatment Program: Beginning in 2016, the Company's wood pole inspection and treatment program was enhanced from a partial excavation process to a full excavation process, whereby all poles that are inspected are fully excavated around the circumference of the pole to inspect and subsequently chemically treat to arrest decay and extend useful life at the same visit. The preservative treatment permits the next inspection to be at a uniform ten-year cycle. As an integral part of the ten-year pole inspection process, PPL observes, notes, and reports at-risk conditions of all pole attachments, specifically crossarms, braces, conductors, transformers, fuse cutouts, lightning arresters, reclosers, regulators, capacitors, switches, wildlife protection, vegetation encroachment, guys, anchors, ground wires, and ground rods.
- Increased Utilization of Infrared Inspections: PPL Electric conducted a trial of infrared inspections of multi-phase lines in 2006. The trial inspections cost \$122,500 and identified repairs costing \$100,000, saving an estimated 1,460,000-2,600,000 Customer Minutes Interrupted ("CMI"). Funding of infrared inspections and repairs was increased significantly during 2010 and has remained at a higher funding level. Infrared inspections occur on all 3-phase and 2-phase overhead lines adjacent to roadways every two years.
- **Expanded Operational Reviews ("EOR"):** EORs are performed on each feeder on a four-year cycle. The engineering review addresses both operational and reliability characteristics of each circuit. Voltage support, phase balancing, power factor maintenance and loading issues are addressed from an operational perspective. Service reliability analysis, exposure analysis, and field checks address reliability.
- **Distribution Automation Strategy:** In 2010, PPL Electric launched a "smart grid" pilot project that enables the Company to move power more efficiently, react instantaneously to changes on the delivery system, and automatically re-route power around problems that occur. After a very successful pilot in the Harrisburg region, substantial investment is planned to help ensure achievement of long term reliability

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goals. Distribution is currently realizing a ~30% reliability improvement in areas where Smart Grid has been fully deployed. Future plans include the installation of hundreds of automated electrical devices through 2021. The end-result will be a delivery system that operates more efficiently, recognizes problems immediately, and responds in seconds to restore the service for many customers who otherwise need to wait minutes or hours.

Although these programs have successfully slowed failure growth rates in the short-term, PPL Electric faces a long-term issue regarding aging infrastructure. The surge in electrical construction in the 1960's and 1970's has resulted in a large number of assets that have reached or are nearing the end of their useful lifetime. Consequently, in 2008-2009, PPL Electric conducted a major condition assessment and maintenance study of its distribution system. The result was the implementation of the Asset Optimization Strategy ("AOS"). The study found that programmatic and accelerated replacement of infrastructure would be the most cost-effective strategy to address aging infrastructure and ensure system reliability and integrity.

Asset Optimization Strategy

The purpose of the AOS study was to develop a strategy for accelerated capital replacement improvements that would combat the anticipated effects of aging infrastructure and bolster PPL Electric's ability to effectively maintain reliable electric service. With the Company entering a period where a significant number of assets are expected to reach the end of life, a plan was developed to intelligently replace assets prior to an unplanned failure that impacts customers. The plan includes replacements in kind, as well as upgrades to current standards.

Examples of AOS Projects include proactive replacement of substation equipment, Low Tension Network ("LTN") equipment, and vintage underground cable based on condition based health analysis. In 2017, Distribution Asset Management will leverage advanced analytic tools to develop and deploy new asset health dashboards that will improve our ability to predict failures of high valued asset across our system.

Accelerated Investment

Figure 4 below depicts PPL Electric's planned capital investment originally included in its 2008-2012 business plan for DSIC eligible property. This business plan was developed in 2007, prior to the AOS study.

	2008	2009	2010	2011	2012
Asset Optimization Strategy*	\$ 1,305,907	\$ 1,486,747	\$ 761,235	\$ 1,090,203	\$ 1,284,506
Improve System Reliability	\$ 10,613,221	\$ 9,237,000	\$ 8,742,719	\$ 11,219,640	\$ 11,792,252
Maintain System Reliability	\$ 30,388,745	\$ 30,148,238	\$ 31,151,354	\$ 31,939,787	\$ 33,422,736
Unreimbursed Highway Relocations	\$ 4,035,602	\$ 3,528,317	\$ 3,598,725	\$ 3,677,628	\$ 3,917,637
Total	\$ 46,343,476	\$ 44,400,302	\$ 44,254,033	\$ 47,927,258	\$ 50,417,131

*Prior to the AOS Study, there was some work budgeted under other categories that were converted to the AOS category.

Figure 4: Original 2008-2012 Capital Investment Plan

Having concluded the AOS study, PPL Electric began engineering and making large material purchases for the identified proactive and accelerated replacements during 2009, followed by a ramp up period during 2010 and full implementation of the strategy in 2011. PPL Electric has refined processes and work planning efforts in support of the sustained investment levels. Acceleration of capital investment into the distribution infrastructure for the five-

year period of 2008 through 2012is illustrated in Figure 5 below. PPL Electric has approximately doubled its investment in DSIC-eligible property from 2009-2012, as a result of the AOS study.

	2008	2009	2010	2011	2012
Asset Optimization Strategy	\$115,046	\$5,115,041	\$19,661,586	\$32,667,111	\$18,700,002
Improve System Reliability	\$7,177,339	\$12,470,418	\$33,186,012	\$39,598,466	\$25,882,744
Smart Grid Investment		\$100,193	\$9,299,164	\$7,320,142	\$2,118,695
Maintain System Reliabilty	\$33,648,603	\$34,407,064	\$46,388,673	\$47,206,474	\$50,164,857
Unreimbursed Highway Relocations	\$3,082,209	\$3,265,414	\$2,521,236	\$4,858,351	\$2,848,305
Total	\$44,023,197	\$55,358,130	\$111,056,671	\$131,650,544	\$99,714,603

Figure 5: Accelerated Capital Investment

The timely recovery of the costs associated with such a large capital appetite is key to ensuring access to the capital markets for financing. Prior to the enactment of Act 11, PPL Electric faced the possibility of requiring more frequents rate cases, perhaps as often as annual filings. The availability of the DSIC mechanism ensures the timely cost recovery of investments in DSIC-eligible property which could result in less frequent and smaller rate increase requests in the future. As shown in Figure 6 below, from 2013 through 2017, as part of the Company's Commission-approved LTIIP, PPL Electric continued to accelerate its expenditures for needed capital improvements and repairs over its previous investment. This strategy will continue in their future business planning models.

	2013	2014	2015	2016	2017*
Asset Optimization Strategy	\$22,841,590	\$19,768,844	\$26,654,632	\$19,062,759	\$30,115,857
Improve System Reliability	\$47,449,928	\$30,815,571	\$29,252,533	\$18,408,383	\$29,224,656
Smart Grid Investment	\$12,088,795	\$17,227,377	\$26,510,401	\$30,691,602	\$25,883,319
Maintain System Reliability	\$51,631,883	\$55,689,193	\$57,243,664	\$63,274,879	\$53,802,908
Unreimbursed Highway Relocations	\$3,979,635	\$4,421,113	\$2,776,572	\$2,662,419	\$3,415,634
Grand Total	\$137,991,830	\$127,922,099	\$142,437,802	\$134,100,042	\$142,442,374

Figure 6: DSIC Capital Investment

*2017 represented forecasted spend in accordance with the 2016 AAOP

Implementation of Long-Term Infrastructure Improvement Plan

The instant Long Term Infrastructure Improvement Plan is a continuation of the AOS infrastructure replacements, in addition to various other prudent capital investments to ensure the safety and reliability of the distribution system. The investments are expected to mitigate the growth in equipment failure projections in the short-term and eventually reverse the trend in the long-term. Equipment failure trends and asset-specific contributions to system-level reliability metrics are analyzed on an ongoing basis to ensure funding is invested appropriately.

PPL Electric routinely reviews the effectiveness of programs to ensure cost-effective investment. Program/project impact on SAIDI and SAIFI, in addition to potential reductions in outage response costs, are compared to the overall program/project costs. PPL Electric utilizes a project prioritization process that defines the cost-

effectiveness of programs/projects to ensure effective optimization of reliability investments. PPL Electric currently is improving the use of ongoing asset health indices to further refine asset replacement criteria.

Ongoing review of the effectiveness of investments to address equipment failure trends will likely result in adjustments to the strategy over time. Future Long Term Infrastructure Improvement Plans will reflect such adjustments. Additionally, work plans may fluctuate throughout a given year due to the need to reallocate resources in response to changing business needs. Some examples include shifting resources for storm response activities, project construction delays caused by a backlog of material deliveries, and the redirection of investment to cure costly equipment failures. In addition, during the project engineering phase, issues such as right-of-way requirements and environmental considerations can result in scope changes that also can delay actual construction. During construction of larger projects, additional scope needs can be identified, creating the need to defer other projects. Finally, reliability metric performance can result in redirection of spending to help ensure the ability to meet targets.

Projected expenditures for the replacement of failed equipment are based on a review of historical trends while considering current failure rates and proactive mitigating measures. For such programs, it is difficult to project the specific scope and location. Therefore, PPL Electric has provided only planned expenditures based on historical trending information.

Utility Outreach

PPL Electric continues to remain engaged, seeking out opportunities with other utilities and government officials on the planning and execution of future construction projects. A forum exists with the Utility Highway Liason Committee (UHLC), with whom PennDOT, the Turnpike Commission, other utilities, and the Energy Association of Pennsylvania meet quarterly to discuss policy issues, present and future projects, and relocation projects. The Company is a regular participant. Initiatives at these forums are focused primarily on improving state and utility interactions.

Utilization of a Qualified Work Force

PPL Electric Workforce

As a measure to ensure the use of a qualified workforce, PPL Electric has adopted the definition of a Qualified Electrical Worker from the OSHA Regulation 29 CFR 1910.268 Electrical Power Generation, Transmission and Distribution, which is defined in the PPL Safety Rule Book and is provided to each employee. It is also incorporated into the training and qualification process for all electrical workers.

PPL Electric administers a rigorous, formal training and evaluation process for all qualified electrical workers. Training is required before an employee may perform work independently on exposed, energized electrical equipment greater than 50 volts. Training requirements and programs are unique to the job classification and work being performed. Curriculum documents, outlining subject areas and training durations by job classification have been developed. Training may require up to 5 years to complete and incremental qualifications, following assessment, are identified throughout the duration of the training program. Retraining is conducted on a periodic basis as required by OSHA or more frequently when determined necessary.

PPL's formal training programs are administered by the Technical Development & Improvement ("TD&I") group. The training section of the TD&I group is comprised of approximately 37 full time employees, both training professionals and craft employees. Experienced training professionals lead the design and development of the training programs with input from subject matter expertise provided by craft employees from the field. Training

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program (curriculum) content is approved by a curriculum committee which is comprised of business line managers. The basic job requirement for an instructor includes 5-years of experience performing the work and attainment of Journeyman level (or equivalent) qualifications. Craft instructors are then trained and mentored. Training delivery is governed by PPL Electric policies and procedures to ensure quality and consistency.

Training is delivered in phases. A phase typically consists of a grouping of training modules into one training period of several days to several weeks. Training consists of both classroom theory and field work to gain handson practical learning experience. Trainees are evaluated throughout the program. Evaluation includes written examination and/or a performance examination. Employees must successfully complete each training module before progressing to the next phase of training.

In addition, trainees in key programs must complete an additional skills assessment prior to advancement to the next step. These assessments are coordinated by the TD&I group. The employees are evaluated (graded) by a panel comprised of knowledgeable field supervisors and experienced bargaining unit craft members. This independent evaluation serves as a quality control check on the TD&I training section.

Over the next 5 years, PPL Electric will be executing a resource strategy which includes formal training classes to hire and train new employees in preparation for upcoming attrition.

Contractor Workforce

PPL Electric's Sourcing department administers a standard process for soliciting contractors to perform work identified to be completed by independent contractors. The process includes issuance of a Request for Proposal ("RFP") to various contractors. That process includes a meeting to review the technical and administrative components of the work and normally a walk-down of the project area. Responses to the RFP are evaluated based on detailed financial and technical schedules that compare respondents' capabilities. Part of the RFP evaluation process includes evaluating the qualification of contractors to perform work (both technical and financial capabilities to meet the contractual commitments, and level of qualification of employees), and may include reference checks if appropriate. Any specific required qualifications of contractors would typically be outlined in the RFP and/or contract (for example: pole installation, permit and tag authorities, line construction by specific voltage, live line work, foundations, directional bore/trenching, underground networks).

Most independent contractors employ personnel through the building trades, which includes Union apprenticeship programs to help ensure that employees are qualified to perform assigned work. (This approach is comparable to PPL Electric's Union labor qualification training program.) Employee qualification programs for non-Union independent contractors are stringently reviewed to assess the contractor's training program, such as on-the-job training and certification programs.

Prior to award, contractors are screened for their safety performance and, if applicable, environmental record. Contractors that do not have an acceptable record receive no further consideration. In the event that a contractor working for PPL Electric incurs safety incidents and/or does not take appropriate safety measures, the contractor is terminated and prohibited from performing work for PPL Electric in the future.

PPL Electric has instituted a contractor orientation program that provides new contractors an opportunity to understand company expectations for performing work safely, mindful of public and private landowner considerations and administrative concerns (such as billing). PPL Electric also sponsors a monthly meeting, with all contractors required to attend, to review safety issues and other relevant topics.

PPL Electric sponsors a training program that allows the contractors' employees to become qualified in PPL Electric's permit-and-tag system. Contractor employees who successfully complete the training program can be permit holders on PPL Electric's system.

PPL Electric monitors the contractors' performance through several activities that may include direct job oversight through on-site supervision, monthly scorecards that evaluate such areas as job quality, safety performance, cost, and validating billing activities that meet contractual expectations. If safety concerns are identified at a job site, any person has the ability and express duty to cease work until the concerns have been appropriately addressed, and a safety review team could be assembled to formally request a contractor to respond to safety concern. Safety violations could result in immediate contractor termination.

Before final acceptance of the contractor's work, a project Construction Supervisor completes a "Project Quality Evaluation Form" that verifies pass or fail for applicable areas of the job (which may include inspection of grounding, trench, foundations, final grade, structural components, poles/towers, conduits, electrical equipment, primary conductor, wiring, designations, and final completion of the Acceptance of Facilities form). Any failures are described along with description and dates of corrections to resolve the areas of concern before final acceptance of the contractor's quality of work.

<u>Summary</u>

As a result of the economic expansion and building boom of the 1960's and 1970's, nearly half of PPL Electric's distribution system was constructed 40 or more years ago. As this equipment deteriorates due to age, environmental exposure, and added load, it becomes increasingly critical to plan for the repair, upgrade, and/or replacement of these assets through the initiatives described above. In the absence of these initiatives, the efficiency, safety, and reliability of the electric distribution system is expected to be increasingly compromised. PPL Electric believes that the expenditures for these initiatives constitute a prudent and reasonable investment for managing its distribution assets and that each of the listed programs will successfully achieve one or more of the following benefits:

- Maintaining public and employee safety
- Reducing service outage durations and number of customers affected
- Reducing service outage restoration times
- Reducing service outage locating and repair times
- Controlling service outage repair costs
- Limiting failure-related damages and related costs, and
- Improving/maintaining power quality (voltage, flicker, etc.)

To achieve these results, PPL Electric anticipates the need for the following total capital expenditures over the 2018-2022 period. Note that planned expenditures for certain initiatives can fluctuate yearly due to the various factors identified previously. The Company intends to finance the costs of its DSIC eligible work through its usual financing mechanisms, debt and equity. In each DSIC rate filing, the Company will identify its capital structure and cost of debt, in addition using the Return on Equity as determined in its base rate case proceeding or as defined in the most recent applicable PUC Quarterly Financial Report.

LTIIP	2018	2019	2020	2021	2022	5 YR Total
Copper Weld Copper	\$0.76	\$1.82	\$2.50	\$2.54	\$2.04	\$9.66
Cross-Yard 12 kV Underground Tie	\$1.72	\$1.65	\$3.03	\$2.99	\$2.05	\$11.44
C-Truss Distribution Poles	\$4.25	\$4.46	\$4.43	\$4.48	\$5.05	\$22.68
Customers Experiencing Multiple Interruptions	\$2.78	\$3.29	\$4.36	\$4.35	\$3.81	\$18.58
Distribution Animal Guarding	\$0.70	\$0.77	\$0.76	\$0.75	\$0.77	\$3.76
Distribution Automation Development	\$12.07	\$17.65	\$21.11	\$18.13	\$6.02	\$74.98
Distribution Failed Equipment	\$16.90	\$16.90	\$17.70	\$17.69	\$17.90	\$87.09
Distribution Pole Replacements	\$17.45	\$17.82	\$18.13	\$18.46	\$19.09	\$90.95
Distribution Reliability Preservation	\$6.58	\$8.09	\$11.12	\$11.10	\$11.23	\$48.12
Distribution Substation Circuit Breakers	\$6.90	\$6.04	\$5.90	\$5.78	\$4.65	\$29.27
Distribution Substation DC Equipment	\$0.19	\$0.26	\$0.25	\$0.25	\$0.27	\$1.22
Fiber Wrap Distribution Poles	\$2.05	\$2.15	\$2.14	\$2.15	\$2.43	\$10.91
Improve System Reliability Projects	\$2.14	\$28.36	\$30.66	\$65.50	\$45.12	\$171.78
Line Cutouts	\$1.51	\$1.51	\$1.51	\$1.51	\$1.02	\$7.07
Low Tension Network Primary Cable, Equipment and Structures	\$2.77	\$5.69	\$5.65	\$5.79	\$3.09	\$22.99
LTN AUTOMATION	\$0.00	\$3.43	\$3.41	\$4.67	\$0.00	\$11.51
Miscellaneous Substation Equipment	\$1.36	\$1.97	\$2.23	\$2.23	\$2.06	\$9.85
New Hydraulic Reclosers	\$0.02	\$0.23	\$0.23	\$0.23	\$0.25	\$0.96
Protection and Control	\$1.90	\$2.16	\$4.98	\$5.05	\$5.18	\$19.27
Reliability Preservation Emergent	\$1.80	\$1.77	\$2.03	\$1.74	\$1.74	\$9.08
Replace Deteriorated/Failed Low-Tension Network Equipment and Stru	\$0.86	\$0.86	\$1.21	\$1.21	\$0.81	\$4.95
Replace Deteriorirated/Failed Area Supply Substation Equipment	\$2.53	\$2.52	\$3.02	\$3.02	\$2.48	\$13.57
Replace Failed 12kV Underground Getaway Cable	\$1.32	\$1.52	\$1.51	\$1.51	\$1.53	\$7.39
Replace Failed Underground Cable	\$14.19	\$14.19	\$14.70	\$14.69	\$14.86	\$72.62
Substation 69/12 kV Transformer Replacement	\$5.87	\$5.04	\$4.07	\$4.08	\$4.39	\$23.45
Substation Animal Guarding	\$0.51	\$0.51	\$0.51	\$0.51	\$0.26	\$2.31
Underground Cable Replacement and Life Extension	\$7.89	\$7.98	\$8.35	\$8.33	\$7.40	\$39.95
Underground Getaway Cable Replacements and Life Extension	\$5.05	\$5.30	\$7.05	\$7.05	\$6.10	\$30.55
Unreimbursed Highway Relocations	\$5.21	\$4.60	\$4.57	\$4.56	\$3.85	\$22.78
Volt Var Optimization	\$2.72	\$2.97	\$8.64	\$4.79	\$5.25	\$24.36
Grand Total	\$129.99	\$171.52	\$195.76	\$225.15	\$180.70	\$903.13
	n Millions					

Almost all of the aforementioned initiatives take advantage of new technologies that did not exist when the associated assets were originally placed into service, and many of these technologies are very recent innovations. These technologies are expected not only to restore the assets to their original level of performance, but, in many cases, provide performance well beyond what previously was achievable in order to ensure and maintain adequate, efficient, safe, and reliable service.

Some of the initiatives, such as animal guarding, clearly have implied end-points, where no further opportunities for improvement remain. Others, such as Distribution Automation, eventually experience diminishing returns over time. Other initiatives, such as pole reinforcement and replacement, will be ongoing. Finally, some programs may become obsolete, while new programs may become desirable as a result of the evolution of new technologies. Because of these and other variables, the effectiveness of these programs is reviewed annually and programs are added, deleted, and/or modified, as necessary, to ensure that the expenditures are providing the desired benefits to customers at a reasonable cost.

Distribution Assets

The following pages detail 5-years projections for Long-Term Infrastructure Improvements initiatives that apply to distribution line assets. These assets include, but are not limited to, the following:

- Structures
 - o Poles
 - o Crossarms
 - o Vaults
 - o Manholes
- Overhead Conductors and Hardware
- Underground Cables and Hardware
- Switching Devices
 - o Air Break Switches
 - o Disconnect Switches
 - Switching Cabinets
- Protective Devices
 - o Fuses
 - o Reclosers
 - o Network Protectors
 - o Lightning Arresters
- Transformers
 - o Overhead
 - o Pad-Mounted
 - o Submersible
 - o Low Tension Network

Distribution Pole Replacements

Program Description and Purpose

Replacement of distribution wood poles identified as non-restorable (cannot be reinforced) during the annual inspect and treat program or during a spot inspection in an effort to improve public and employee safety, as well as service reliability. This program contributes to storm hardening efforts and aims to improve public and employee safety, as well as service reliability, by reducing potential pole failures.

Identification/Justification Process

PPL Electric inspects approximately 90,000 poles per year. Historical data suggests an approximate 5% rejection rate from the population of yearly inspections; of those rejected, 70% are candidates for reinforcement while 25% are candidates for replacement. Replacing rejected poles avoids property damage and risk of accidental injury, and it mitigates the costs associated with extended service outages. Replacement rates are expected to fall as a result of PPL Electric's pole treatment program. The average age of an in-service wooden distribution pole is 38 years.

<u>Scope</u>

The scope of the program is a direct correlation to the number of wood pole inspections.

Planned Replacements in Units								
2018	2019	2020	2021	2022	Total Scope			
2900-	2900-	2900-	2900-	2900-	14500-16000			
3200	3200	3200	3200	3200	14300-16000			

Locations

Specific locations are a direct correlation to the wood pole inspection plan. Inspection locations are identified yearly primarily as a function of previous inspection dates, as well as ensuring cost-effectiveness of the program and minimizing inspection crew movements.

	Planned Expenditures								
	2018	2019	2020	2021	2022	Total			
ĺ	\$17.45	\$17.82	\$18.13	\$18.46	\$19.09	\$90.95			

C-Truss Distribution Poles

Program Description and Purpose

Steel reinforcement (C-Trussing) of deteriorated distribution wood poles in order to restore the pole's original strength, ensure public safety, and maintain reliable electric service through the reduction of potential pole failures. This program contributes to storm hardening efforts by reducing potential pole failures.

Identification/Justification Process

PPL Electric inspects approximately 90,000 poles per year. Historical data suggests an approximate 10% rejection rate from the population of yearly inspections, of which historically 75% are candidates for steel reinforcement. When applicable, this method achieves a significant savings over pole replacement.

<u>Scope</u>

Planned Reinforcements in Units								
2018	2019	2020	2021	2022	Total Scope			
5260-	5260-	5260-	5260-	5260-	26200 20075			
5815	5815	5815	5815	5815	26300-29075			

Locations

Locations identified for C-trussing are a direct correlation to the number of wood pole inspections.

Planned Expenditures								
2018	2019	2020	2021	2022	Total			
\$4.25	\$4.46	\$4.43	\$4.48	\$5.05	\$22.68			

Fiber Wrap Distribution Poles

Program Description and Purpose

Fiber reinforcement of deteriorated distribution wood poles to improve the pole's strength, ensure public safety and maintain reliable electric service through the reduction of potential pole failures. Fiber wrapped poles are restored to 85% original strength. Fiber wrap is a reinforcement method by which a standing pole in Pennsylvania Department of Transportation (PennDOT) right of way is wrapped and cured in fiber reinforcement materials. This program contributes to storm hardening efforts and aims to improve public and employee safety, as well as service reliability, by reducing potential pole failures.

Identification/Justification Process

Fiber wrap candidates are selected from a pool of restorable poles in PennDOT's right-of-way on the basis of the condition of pole, the age of pole and the cost of replacement. Historically, reinforcement of poles within PennDOT right-of-way was not practiced and all poles that did not pass inspection were replaced. In an effort to increase cost-effectiveness, PPL Electric began fiber wrap reinforcement during 2012 and reduced the number of pole replacements from 30% of rejected poles to 25%. Shifting capital from replacement to fiber wrap allows capital to be invested in more effective areas.

<u>Scope</u>

Planned Fiber Wrap in Units							
2018	2019	2020	2021	2022	Total Scope		
585-645	585-645	585-645	585-645	585-645	2925-3225		

Locations

Locations identified for fiber wrap are a direct correlation to the wood pole inspection plan.

Planned Expenditures								
2018 2019 2020 2021 2022 Total								
\$2.05	\$2.15	\$2.14	\$2.15	\$2.43	\$10.91			

Line Cutouts

Program Description and Purpose

Replacement of porcelain cutouts on the 12kV system to avoice tracking along freeze/thaw cycle cracks, which can eventually lead to pole top fires.

Identification/Justification Process

Porcelain cutouts are identified via regularly scheduled line patrols (EOR, WPC, pole inspections). Locations are then prioritized via system exposure and historical locational propensity to pole top fire events.

<u>Scope</u>

Planned Cutouts in Units						
2018	2019	2020	2021	2022	Total Scope	
400-500	400-500	400-500	400-500	400-500	2000-2500	

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	375-460
Northeast	375-460
Central	375-460
Susquehanna	375-460
Harrisburg	375-460
Lancaster	375-460

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$1.51	\$1.51	\$1.51	\$1.51	\$1.02	\$7.07	

Volt Var Optimization

Program Description and Purpose

Installation of capacitors on the 12 kV system to achieve a near unity power factor on the high side of the distribution substation transformers ensuring required overall power quality.

Identification/Justification Process

Capacitors are installed on the 12 kV system using VAR requirements that are identified annually by PPL Electric's distribution planning resources. PJM requires a minimum power factor of 0.97 as measured at the transmission/distribution interface point. Scope is determined by voltage and MVAR requirements to support any system shortages. Regional splits are analyzed annually based on need.

<u>Scope</u>

Planned Installations in Units							
2018	2019	2020	2021	2022	Total Scope		
300-350	325-375	1000- 1050	250-300	250-300	2125-2375		

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	400-440
Northeast	220-260
Central	280-320
Susquehanna	250-290
Harrisburg	420-460
Lancaster	520-560

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$2.72	\$2.97	\$8.64	\$4.79	\$5.25	\$24.36	

New Hydraulic Reclosers

Program Description and Purpose

Proactive installation of new hydraulic reclosers to improve reliability performance by increasing circuit sectionalizing ability. Reclosers minimize the number of customers affected by a sustained outage.

Identification/Justification Process

Locations are requested by regional reliability engineers and prioritized annually based on anticipated SAIDI savings. A gradual scope reduction is assumed in the outer years as a result of saturation of reclosers and other distribution automation equipment.

<u>Scope</u>

Planned Installations in Units						
2018	2019	2020	2021	2022	Total Scope	
3-5	15-20	15-20	15-20	15-20	63-85	

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	10-15
Northeast	10-15
Central	10-15
Susquehanna	10-15
Harrisburg	10-15
Lancaster	10-15

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$0.02	\$0.23	\$0.23	\$0.23	\$0.25	\$0.96	

Distribution Animal Guarding

Program Description and Purpose

Proactive installation of animal guards on existing distribution overhead transformers and air break switches to improve circuit reliability. Animal guards help prevent animal-related contacts which cause service interruptions.

Identification/Justification Process

Air break switches have animal guarding installed as part of their inspection process. Transformers are identified both by opportunistic installation of guarding during other non-related work, and by on-the-spot or follow-up orders after responding to animal-caused outages.

<u>Scope</u>

Planned Animal Guards						
2018	2019	2020	2021	2022	Total Scope	
300-400	300-400	300-400	300-400	300-400	1500-2000	

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	250-350
Northeast	250-350
Central	250-350
Susquehanna	250-350
Harrisburg	250-350
Lancaster	250-350

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$0.70	\$0.77	\$0.76	\$0.75	\$0.77	\$3.76	

Distribution Failed Equipment

Program Description and Purpose

Replacement or repair of failed or deteriorated capital units of distribution equipment, excluding underground cable, in order to maintain adequate service reliability.

Identification/Justification Process

Candidates are identified via inspections, both planned and ad-hoc, as well as actual outages and power service problems. Budget allocations are based on historical trends of hours charged to corrective work, in addition to projected trends of future equipment failures. Examples include, but are not limited to, failed reclosers, poles, capacitor banks, and air breaks.

Scope & Locations

Scope and locations are determined as equipment fails.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$16.90	\$16.90	\$17.70	\$17.69	\$17.90	\$87.09	

Replace Failed Underground Cable

Program Description and Purpose

Replacement of failed underground residential primary cables in order to maintain adequate service reliability.

Identification/Justification Process

Candidates are identified via actual failures. Budget recommendations are based on historical trends of hours charged to corrective work, in addition to projected trends of future equipment failures.

Scope & Locations

Scope and locations are determined as cable fails.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$14.19	\$14.19	\$14.70	\$14.69	\$14.86	\$72.62	

Replace Failed 12 kV Underground Getaway Cables

Program Description and Purpose

Replacement of failed 12 kV underground getaway cables in order to maintain adequate service reliability. Getaway failures can result in long duration outages. Getaway cables connect substations to outgoing feeders beyond the substation perimeter.

Identification/Justification Process

Candidates are identified via actual failures and cables with severely poor testing results. Budget recommendations are based on historical trends of hours charged to corrective work, in addition to projected trends of future equipment failures.

Scope & Locations

Scope and locations are determined as cable fails or fails testing.

Planned Expenditures					
2018	2019	2020	2021	2022	Total
\$1.32	\$1.52	\$1.51	\$1.51	\$1.53	\$7.39

Replace Deteriorated/Failed Low Tension Network Equipment and Structures

Program Description and Purpose

Replacement or repair of deteriorated and failed equipment related to low-tension networks, including submersible transformers, network protectors, manholes, and vault tops in order to maintain adequate service reliability. Low-tension networks are low voltage underground distribution facilities found in urban areas.

Identification/Justification Process

Candidates are identified via actual failures, inspections, testing, or work on the system. Budget recommendations are based on historical trends of hours charged to corrective work, in addition to projected trends of future equipment failures.

Scope & Locations

Scope and locations are determined as cable fails.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$0.86	\$0.86	\$1.21	\$1.21	\$0.81	\$4.95	

Underground Cable Replacement and Life Extension

Program Description and Purpose

Programmatic replacement and/or treatment of deteriorated underground cable to maintain reliable electric service. Specifically for underground residential developments ("URD"), PPL Electric's course of action is to treat the entire URD, where possible.

Identification/Justification Process

Candidates are selected based on history of cable failures. Once the initial failure is treated, remaining cable sections of the same vintage in the area are tested. Test results drive the decision to either replace the cable or treat it with a compound to restore cable insulation, known as cable curing. The profile of URD cable varies across URDs, thus making it difficult to predict whether cable curing or replacement will be the prevalent course of action in a given URD. On a system-wide basis, however, historical experience indicates that of the total number of cables in troubled URD locations, typically 35% can be cured, 25% require replacement, and 40% do not require immediate remediation.

Regional allocation of cable remediation is based on historical regional percent contribution to system-wide cable failures.

	Planned Scope In Cable Segments					
Treatment	2018	2019	2020	2021	2022	Total Scope
Replacement After Test	220-280	220-280	220-280	220-280	220-280	1100-1400
Cure	600-680	800-900	800-900	800-900	850-950	3850-4330
Proactive Replacement	150-175	150-175	150-175	150-175	150-175	750-875

<u>Scope</u>

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	1211-1339
Northeast	797-881
Central	524-580
Susquehanna	553-611
Harrisburg	1383-1529
Lancaster	1302-1440

Planned Expenditures (in millions)

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$7.89	\$7.98	\$8.35	\$8.33	\$7.40	\$39.95	

PPL Electric Utilities Corp.

Low Tension Network Primary Cable, Equipment and Structures

Program Description and Purpose

Programmatic replacement of deteriorated equipment related to low-tension networks, including: paper insulated lead cable (PILC), submersible transformers, network protectors, manholes, and vault tops. The purpose of this program is to ensure public safety and service reliability through the replacement of underground facilities that have reached the end of their expected life or show signs of premature age from prolonged exposure to corrosive environments.

Identification/Justification Process

Vintage PILC cable has a documented history of problems and was deemed prudent to replace entirely. Replacement and repair of manhole and vault tops is determined by regular inspection. Transformer and network protector replacements are determined through inspection and age, where assets exceeding 40 years in service are considered highest priority.

<u>Scope</u>

		Planned Replacements in Units (in Work Orders)					
	2018	2019	2020	2021	2022	Total Scope	
Lead Cable	0-5	1-5	1-5	1-5	1-5	4-25	
LTN Equipment	15-30	15-30	15-30	15-30	15-30	75-150	

Locations (Approximate total over 5 year plan)

Region	LTN Equipment	Cable
Lehigh	25-65	0-7
Northeast	25-65	0-7
Central	25-65	0-7
Susquehanna	25-65	0-7
Harrisburg	25-65	0-7
Lancaster	25-65	0-7

Planned Expenditures (in millions)

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$2.77	\$5.69	\$5.65	\$5.79	\$3.09	\$22.99	

PPL Electric Utilities Corp.

LTN Automation

Program Description and Purpose

The purpose of the program is to install remote monitoring and control equipment in all Low Tension Network (LTN) vaults. This will allow for safer operation of LTNs, a reduction in maintenance costs, a reduction in failed equipment requiring replacement, and better data for asset planning and investment.

Identification/Justification Process

Rollout of this program began in the Leigh and Harrisburg regions. By the completion of this program, all LTN vaults will receive automation.

<u>Scope</u>

Planned Replacements in Units						
2018	2019	2020	2021	2022	Total Scope	
0-1	1-2	1-2	2-3	0-1	4-9	

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	0
Northeast	1
Central	1
Susquehanna	1
Harrisburg	0
Lancaster	1

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$0.00	\$3.43	\$3.41	\$4.67	\$0.00	\$11.51		

Underground Getaway Cable Replacements and Life Extension

Program Description and Purpose

Programmatic replacement of aging 12 kV underground getaway cables, with an emphasis on conversion to overhead design, to prevent service outages and reduce outage durations for improved reliability.

Identification/Justification Process

Getaways are selected on a basis of failure history, cable test results, and age. Cables that are older than 40 years and serve a large number of customers, are given highest priority. The average age for UG cables identified for replacement is 38 years. PPL Electric also plans to incorporate treatment methods for getaways that are currently implemented for URD cables on the distribution system.

<u>Scope</u>

Planned Replacements in Units							
2018	2019	2020	2021	2022	Total Scope		
30-35	30-35	40-50	40-50	35-45	175-215		

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	39-44
Northeast	23-26
Central	28-31
Susquehanna	22-25
Harrisburg	46-52
Lancaster	33-37

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$5.05	\$5.30	\$7.05	\$7.05	\$6.10	\$30.55	

Copper Weld Copper Replacement

Program Description and Purpose

Programmatic replacement of overhead #6 Copper, and #6, #6A and #7A Copper Weld overhead conductor to improve reliability of service by reducing potential for long-duration conductor failures. Such vintages of conductor are known to anneal and are often found in heavily wooded areas of the service territory where relocation, along with reconductoring, help to ensure future outages can be restored more quickly. PPL Electric currently is evaluating expanding this program to include other types of vintage cables/conductors.

Identification/Justification Process

Circuits are prioritized by an algorithm that weighs the amount of copper on the line and historic customer service interruptions.

<u>Scope</u>

	Planned Projects							
2018	2019	2020	2021	2022	Total Scope			
2-4	3-5	3-5	3-5	3-5	14-24			

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	2-3
Northeast	2-3
Central	2-4
Susquehanna	2-4
Harrisburg	2-4
Lancaster	2-4

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$0.76	\$1.82	\$2.50	\$2.54	\$2.04	\$9.66	

Customers Experiencing Multiple Interruptions

Program Description and Purpose

Improve reliability for customers experiencing multiple interruptions ("CEMI") and customers experiencing multiple momentary interruptions ("CEMMI") via upgrades to their circuits. The purpose of the program is to prevent future outages from occurring and to increase communication with customers who experience five or more service outages within a one year period, or two or more momentary interruptions per month on average for a year.

Identification/Justification Process

Projects are identified by regional distribution planners and regional reliability supervisors once a circuit has customers who exceed a threshold of five or more service interruptions within a calendar year, or are downstream of devices that momentarily interrupt customers more than set thresholds for various time frames. Projects are vetted at cross-functional task force meetings (both for CEMI and CEMMI) for approval and ranked systematically based on historical CEMI performance, year-to-date CEMI performance, cost per customer benefit, and expected reliability improvements. CEMMI projects are ranked based on cost and number of customers affected, along with severity of issue. Examples include, but are not limited to, reconductoring lines, replacing and/or relocating protective equipment with new equipment, and building new tie lines to improve switching capabilities. It should be noted that sizes of projects vary significantly which can result in material swings in the number of planned projects.

Scope

	Planned Projects									
Program	2018	2019	2020	2021	2022	Total Scope				
CEMI	10-30	20-40	20-40	20-40	20-40	90-190				
CEMMI	125-140	125-140	125-140	125-140	125-140	625-700				

Locations

Locations are identified based upon emergent reliability needs.

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$2.78	\$3.29	\$4.36	\$4.35	\$3.81	\$18.58		

Distribution Reliability Preservation

Program Description and Purpose

Upgrades to the distribution system as justified by regional reliability supervisors to improve reliability. Improvements are targeted towards WPCs, circuits with a history of customer complaints, or recommendations as a result of EORs. EORs are detailed reliability and operational analysis performed on 25% of a region's distribution circuits per year.

These projects are outside the scope of the Worst Performing Circuit program because they are smaller in nature and can be more quickly engineered and constructed.

Identification/Justification Process

Regional reliability supervisors identify and submit requests for small-scale circuit improvement projects. Projects under \$50,000 are directly identified by the regions, approximately 60% of the budget is allotted towards these small improvements. Projects over \$50,000 are ranked utilizing PPL Electric's investment prioritization tool to ensure funds are directed towards the most cost-effective projects. The number of projects and locations may vary depending on areas with reliability concerns. Examples include, but are not limited to, installation of fuses, fault indicators, reconductoring of vintage conductor, upgrading conductor to reduce impact of vegetation related service outages, and relocating sections of lines that may be inaccessible or prone to vegetation related service outages.

It should be noted projects vary significantly in size, which can result in material swings in the number of planned projects.

Planned Projects							
2018	2019	2020	2021	2022	Total Scope		
15-35	20-40	35-55	35-55	35-55	140-240		

<u>Scope</u>

Locations

Locations are identified based upon emergent reliability needs.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$6.58	\$8.09	\$11.12	\$11.10	\$11.23	\$48.12	

Reliability Preservation Emergent

Program Description and Purpose

Remediation of issues primarily associated with secondary voltage and emergent small-scale customer reliability needs in order to improve reliability.

Identification/Justification Process

Work is identified by line crews, as well as through customer calls, and is completed to avoid potential service outages, power quality concerns and safety issues. Examples include, but are not limited to, modifying capacitance to address voltage concerns, installing fusing to aid in sectionalizing, installing animal guards after multiple animal caused outages, and replacing transformers to resolve transformer overload. Budget recommendations are based on historical trends of hours charged.

Scope & Locations

Scope and locations are determined as emergent needs arise.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$1.80	\$1.77	\$2.03	\$1.74	\$1.74	\$9.08	

Distribution Automation Deployment

Program Description and Purpose

Upgrade existing air breaks, vacuum circuit reclosers ("VCRs"), and SCADA ("Supervisory Control and Data Acquisition") at distribution substations, and identify new locations to install automated air breaks and VCRs to improve circuit reliability. This will allow for automatic sectionalizing and restoration of customers during service outage conditions. This plan meets the recommendation the Commission issued on August 7, 2012 regarding outage mitigation techniques during storm events.

Recloser Replacements:

Prior to 2014, PPL Electric inspected and refurbished all reclosers (single and three-phase) on an eight-year cycle, pursuant to PUC Inspection and Maintenance Standard 52. Pa. Code § 57.198 (n)(7). In 2015, to improve reliability and move the company toward condition based maintenance, PPL Electric Utilities began replacing all three-phase reclosers with electronic vacuum devices on a ten year cycle. This plan was approved by the PUC in January 2014, and was filed as part of PPL Electric's 2016-2017 Inspection and Maintenance Plan filing.

Identification/Justification Process

Areas selected for deployment:

- Have concentrations of distribution feeders that have been identified as WPCs.
- Have the operational flexibility to allow transfers and restoration of customers when service outages occur.
- Have significantly contributed to system SAIDI and SAIFI.

Customer Benefits:

- 500,000 customers (36%) will be covered under the distribution automation deployment.
- Significant reductions in system SAIDI and SAIFI.
- Reduction of the number of customers experiencing long duration service interruptions. Distribution automation will sectionalize the service interruption to the smallest possible area in under five minutes.
- Major Event improvements:
 - Fewer resources needed for switching (trouble crews can focus on cutting loops and performing repairs).
 - Reduction in call volume due to automatic restoration of customers.

Approximately 16-28 distribution substations will be upgraded per year and approximately 223-532 distribution devices will be upgraded per year.

<u>Scope</u>

	Planned Distribution Device Upgrades						
Voltage	2018	2019	2020	2021	2022	Total Scope	
12 kV	300-350	300-350	300-350	300-350	150-200	1350-1600	

Distribution devices include reclosers, air breaks, and communication infrastructure.

Locations (Approximate total over 5 year plan)

Region	Distribution
	Devices
Lehigh	225-275
Northeast	225-275
Central	225-275
Susquehanna	225-275
Harrisburg	225-275
Lancaster	225-275

Planned Expenditures					
2018	2019	2020	2021	2022	Total
\$12.07	\$17.65	\$21.11	\$18.13	\$6.02	\$74.98

System Reliability Improvement Projects ISR Projects

Program Description and Purpose

Large-scale improvements to distribution circuits with a history of poor reliability. This program addresses long-term projects, primarily aimed at WPCs. However, other proactive long-term projects with proven reliability benefit are included.

Identification/Justification Process

Each quarter, distribution planners and regional reliability supervisors meet to propose projects to improve WPCs. Projects are approved by distribution planning supervisors and vetted against other projects for scheduling based on historical reliability, potential benefit, and cost. Projects may span multiple years and are listed in the years they are planned to go in service. Scope is expected to increase in outer years as circuits and projects are identified. Examples include, but are not limited to, circuit reconfigurations with new tie lines, new lines and terminals, or the installation of substations for increased reliability.

Additionally, PPL Electric monitors large customer impact outages on a daily basis. A circuit that begins to show reliability deterioration and notable impact on reliability metrics requires a root cause analysis. Such analysis can result in the identification of a long-term project.

Note that the projects vary significantly in size, which can result in material swings in the number of planned projects.

<u>Scope</u>

Planned Projects						
2018	2019	2020	2021	2022	Total Scope	
2-4	5-10	5-10	30-50	10-20	52-94	

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	8-20
Northeast	8-20
Central	8-20
Susquehanna	8-20
Harrisburg	8-20
Lancaster	8-20

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$2.14	\$28.36	\$30.66	\$65.50	\$45.12	\$171.78	

Unreimbursed Highway Relocations

Program Description and Purpose

Unreimbursed customer requested relocations of PPL Electric distribution facilities in support of highway and bridge projects throughout service territory.

Identification/Justification Process

The customers (project sponsors) include PennDOT, the PA Turnpike Commission, and various counties and municipalities. PPL Electric and the project sponsor execute a reimbursement agreement, and PPL Electric is reimbursed for its work based on the "pole count method", as defined in PennDOT's DM-5 manual. Historically, reimbursement for distribution projects is approximately 35%.

To accommodate highway relocations and other municipal projects, approximately 70-120 projects per year are placed in service. PPL Electric typically is notified of distribution relocation work 12 months or less before the start of requested utility relocation activities.

Scope & Locations

Scope and locations are determined as requests are received.

Planned Expenditures (in millions)

PPL Electric's expenditures to complete highway relocation projects are the net of total expenditures minus the project sponsor's reimbursements.

Planned Expenditures "Net Spend"					
2018	2019	2020	2021	2022	Total
\$5.21	\$4.60	\$4.57	\$4.56	\$3.85	\$22.78

Substation Assets

The following pages detail 5-year projections for Long-Term Infrastructure Improvements initiatives that apply to distribution substation assets. These assets includes, but are not limited to, the following:

- Structures
 - o Enclosures
 - o Fences
- Overhead Conductors and Hardware
- Underground Cables and Hardware
- Switching Devices
 - o Air Break Switches
 - o Disconnect Switches
- Protective Devices
 - o Circuit Breakers
 - o Fuses
 - o Reclosers
 - o Lightning Arresters
- Transformers
 - o Power
 - Station Service
 - o Instrument

Distribution Substation Circuit Breakers

Program Description and Purpose

Programmatic replacement of substation circuit breakers ("CBs") based on age and other factors to ensure reliable service. This program includes the replacement of 12 kV circuit breakers, as well as 69 kV circuit breakers that are classified as distribution facilities and equipment.

Identification/Justification Process

Candidates for replacement are identified based on age, operating issues, availability of spare/repair parts, and the availability of vendor technical support. Once identified, replacement of these facilities are coordinated and aligned with the replacement of other assets at the same substation within the five-year planning window.

The average age of the 12 kV circuit breakers that have been identified for replacement through 2017 is 48 years; the life expectancy is 50 years.

The specific type of 12 kV circuit breakers that have been targeted in this replacement program are the GE type FKD and FK oil CBs, Allis Chalmers type OZ and FZO oil CBs, Federal Pacific type AF and JCE oil CBs, McGraw Edison type VAC vacuum CBs, IT type VBK vacuum CBs, and GE type VIB vacuum CBs.

The average age of the 69 kV circuit breakers that have been identified for replacement through 2017 is 47 years; the life expectancy is 50 years.

The specific type of 69 kV circuit breakers that have been targeted for replacement in this program are the Allis Chalmers type FZO oil CBs and the GE type FK oil CBs.

	Planned Projects						
Voltage	2018	2019	2020	2021	2022	Total Scope	
12 kV	30-35	26-31	26-31	26-31	26-31	134-159	
69 kV	0-2	0-2	0-2	0-2	0-2	0-10	

Scope

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	25-30
Northeast	16-19
Central	18-22
Susquehanna	18-22
Harrisburg	29-35
Lancaster	26-31

PPL Electric Utilities Corp.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$6.90	\$6.04	\$5.90	\$5.78	\$4.65	\$29.27	

Substation 69/12 kV Transformer Replacement

Program Description and Purpose

Programmatic replacement of distribution substation transformers to maintain reliable service.

Identification/Justification Process

Candidates for replacement are identified based on age and/or maintenance condition, both indicators of potential failure. Once identified, replacement of these facilities is coordinated and aligned with the replacement of other assets at the same substation within the five-year planning window. Replace approximately 5 per year, averaged over a five-year period.

The average age of assets identified for replacement is 52 years; 13 of these are beyond their expected life. These assets are of vintages between 1947 and 1973, manufactured by Westinghouse, U S Transformer, RTE-Asea, Moloney, Hevi-Duty, General Electric and Allis Chalmers.

<u>Scope</u>

Planned Projects						
2018	2019	2020	2021	2022	Total Scope	
3-5	3-5	3-5	3-5	3-5	15-25	

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	1-2
Northeast	1-3
Central	4-7
Susquehanna	4-7
Harrisburg	1-3
Lancaster	1-3

Planned Expenditures (in millions)

Planned expenditures fluctuate due to timing of long lead material purchases.

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$5.87	\$5.04	\$4.07	\$4.08	\$4.39	\$23.45		

Protection and Control

Program Description and Purpose

Programmatic replacement of protection and control equipment to maintain reliable distribution service to customers. Replacement of relays with modern microprocessor relays will enhance the ability for self-diagnostics, as well as continuous monitoring of the health of the device. Replacement of obsolete SCADA protocols and equipment will enable relays to perform properly.

Identification/Justification Process

Candidates for replacement are identified based on obsolescence, availability of vendor support, and age. Once identified, replacement of these facilities is coordinated and aligned with the replacement of other assets at the same substation within the five-year planning window. The specific type of relays that have been targeted for early replacement in this program are the Agastat 2400 Series, Westinghouse COI, General Electric IAC, General Electric CFF, General Electric NLR, ABB DPU 245/445, and Westinghouse COM.

<u>Scope</u>

Planned Projects						
2018	2019	2020	2021	2022	Total Scope	
72-80	94-100	194-199	196-201	195-200	751-780	

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	170-177
Northeast	181-188
Central	137-143
Susquehanna	102-106
Harrisburg	72-75
Lancaster	155-162

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$1.90	\$2.16	\$4.98	\$5.05	\$5.18	\$19.27		

Cross-Yard 12 kV Underground Ties

Program Description and Purpose

Programmatic replacement of underground substation cables to maintain reliable service.

Identification/Justification Process

Candidates for replacement are identified based on age and/or maintenance condition, both indicators of potential failure. Assets with an age significantly greater than 29 years are deemed good candidates for replacements. In addition, assets with unfavorable test results, which indicate the likelihood of failure, are prioritized for replacement. Currently, there is an average of 23 replaced per year over a five-year period. The average age of assets identified for replacement is 40 years. These assets were installed between 1960 and 1989; 124 of these assets are over 40 years old.

<u>Scope</u>

Planned Projects							
2018	2019	2020	2021	2022	Total Scope		
20-25	20-25	40-45	40-45	25-30	145-170		

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	12-15
Northeast	41-48
Central	23-27
Susquehanna	12-14
Harrisburg	19-22
Lancaster	37-44

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$1.72	\$1.65	\$3.03	\$2.99	\$2.05	\$11.44		

Replace Deteriorated/Failed Area Supply Substation Equipment

Program Description and Purpose

Replacement of failed or deteriorated equipment at area supply substations with in-kind equipment to maintain safe and reliable service.

Identification/Justification Process

Candidates are identified via actual failures, inspections, testing or work on the system. Budget recommendations are based on historical trends of hours charged to corrective work, in addition to projected trends of future equipment failures.

Scope & Locations

Scope and locations are determined as equipment fails.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
\$2.53	\$2.52	\$3.02	\$3.02	\$2.48	\$13.57	

Repair Failed 138/69/12 kV Transformers

Program Description and Purpose

Repair of failed distribution substation power transformers to "like new" condition to maintain safe and reliable service in a more cost-effective manner than the purchase of new units. Program only includes costs associated with the overhaul of the failed unit.

Identification/Justification Process

Budget projections include a failure rate of three transformers per year based upon a ten-year rolling average. Individual units are selected based upon the cost-effectiveness of rebuilding the unit when compared to scrapping.

Scope & Locations

Scope and locations are determined as equipment fails.

Planned Expenditures						
2018	2019	2020	2021	2022	Total	
0	0	0	0	0	0	

Distribution Substation DC Equipment

Program Description and Purpose

Programmatic replacement of distribution substation DC equipment to maintain reliable service. This program includes the replacement of 24V, and 48V batteries, as well as battery chargers.

Identification/Justification Process

Candidates for replacement are identified based on age, operating issues, and availability of spare parts. Once identified, replacement of these facilities are coordinated and aligned with the replacement of other assets at the same substation within the five-year planning window. Currently, there is an average of 25 pieces of DC equipment scheduled to be replaced per year over the next five-year period. The average age of the DC equipment scheduled to be replaced through 2017 is 31 years; life expectancy of this type of equipment is 20 years. Of the devices being replaced, 80 devices will be beyond their expected life by the time of replacement.

<u>Scope</u>

	Planned Projects						
2018 2019 2020 2021 2022 Total Scop					Total Scope		
	15-22	15-22	15-22	15-22	15-22	75-110	

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	19-23
Northeast	42-50
Central	13-16
Susquehanna	2-3
Harrisburg	18-22
Lancaster	9-11

Planned Expenditures							
2018	2019	2020	2021	2022	Total		
\$0.19	\$0.26	\$0.25	\$0.25	\$0.27	\$1.22		

Miscellaneous Substation Equipment

Program Description and Purpose

Programmatic replacement of older substation equipment, including air breaks, potential transformers ("PTs"), capacitance-coupled voltage transformers ("CCVTs"), circuit switchers, lightning arresters, voltage regulators, and DC panels in order to prevent future maintenance concerns and to maintain reliable service.

Identification/Justification Process

Candidates for replacement are identified based on age and/or maintenance condition, both indicators of potential failure. Once identified, replacement of these facilities is coordinated and aligned with the replacement of other assets at the same substation within the five-year planning window. Currently, there is an average of 44 pieces of equipment scheduled to be replaced per year over the next five-year period. The average age of assets identified for replacement is 47 years. These assets are of vintages between 1947 and 2000. Approximately 194 of these assets are projected to have exceeded their expected life by the time they are replaced.

<u>Scope</u>

Planned Projects								
2018 2019 2020 2021 2022 Total Scope								
22-26	46-50	46-50	46-50	38-42	198-218			

Locations (Approximate total over 5 year plan)

Region	Projects
Lehigh	39-44
Northeast	23-26
Central	44-49
Susquehanna	13-15
Harrisburg	2-3
Lancaster	73-81

Planned Expenditures									
2018 2019 2020 2021 2022 Total									
\$1.36	\$1.97	\$2.23	\$2.23	\$2.06	\$9.85				

Substation Animal Guarding

Program Description and Purpose

Improvements to existing distribution substation equipment via the proactive installation of animal guards. Guarded equipment includes transformer bushings, circuit breakers, fuse/disconnect switches, bus supporting insulators, surge arresters, station service transformers, PTs, and cable terminators.

Identification/Justification Process

Distribution substations are regionally prioritized based on historical animal-related service outages, number of customers served, substation load, and substation type. High priority substations are animal guarded first with the lower priority substations guarded in outer years.

<u>Scope</u>

Planned Installations in Units								
2018 2019 2020 2021 2022 Total Scope								
1-3	0-2	0-2	0-2	0-2	1-11			

Locations (Approximate total over 5 year plan)

Region	Units
Lehigh	0-2
Northeast	1-2
Central	1-2
Susquehanna	0-1
Harrisburg	0-2
Lancaster	1-4

Planned Expenditures									
2018 2019 2020 2021 2022 Total									
\$0.51	\$0.51	\$0.51	\$0.51	\$0.26	\$2.31				

Appendix A : Average Age of Major Units of Property

The below chart is a summary of key distribution assets, targeted for planned replacement and proactive installation.

Average Age of Major Units of Distribution Property						
Utility Account	Description	Avg Asset Age*				
362.0 - Station Equipment	DC System Equipment	15				
362.0 - Station Equipment	Substation Animal Guards	8				
362.0 - Station Equipment	Power Circuit Breakers	31				
362.0 - Station Equipment	Power Transformers	38				
362.0 - Station Equipment	Protection and Control Equipment	47				
364.4 - Poles and Fixtures	Distribution Wood Poles	40				
365.0 - Overhead Conductors, Device	Distribution Animal Guards	4				
365.0 - Overhead Conductors, Device	OH Primary Conductor	46				
365.0 - Overhead Conductors, Device	Air Break Switches	11				
365.0 - Overhead Conductors, Device	Automatic Switches (Primarily OCRs/VCRs)	11				
365.0 - Overhead Conductors, Device	Disconnect Switches	47				
366.0 - Underground Conduit	UG Primary Conductor (includes Getaways and Cross Yard Ties)	34				
366.0 - Underground Conduit	Equipment Foundation, Man Holes, Transformer Vaults	23				
368.4 - Submersible or Padmt Type	UG Transformers (includes LTN Transformers & Network Protectors)	23				
* Note that the average age of several classific	cations is skewed by recent increased installations. For example, automatic switches a	nd animal				

PPL Electric Utilities Corporation

Appendix B : Asset Contribution To Reliability Metrics

The below table provides a summary of customers interrupted and Customer Minutes Interrupted ("CMI") by failed component. Note that both transmission and distribution substation outages are included in the Substation component asset type.

		20	12	20	13	20	14	20	15	20	16
		# Customers (Permanent)	CMI (Permanent)	# Customers (Permanent)		# Customers (Permanent)	CMI (Permanent)	# Customers (Permanent)	CMI (Permanent)	# Customers (Permanent)	CMI (Permanent)
Component Asset Type	Component Desc										
Distribution	OH-Capacitor Bank	2,189	119,903	1,344	146,513	4,976	458,401	1,735	93,922	1,600	83,912
	OH-Lightning Arrester	7,287	1,346,042	2,184	337,493	5,941	912,371	6,498	684,672	5,139	612,653
	OH-Other Equipment(explain)	5,824	902,017	8,903	642,349	7,977	823,273	8,110	762,681	2,547	329,04
	OH-Pole/Arms Attachments	40,294	5,037,861	44,010	3,878,192	52,799	7,071,597	51,027	5,579,971	45,151	6,004,224
	OH-PRI Splices and Connectors	9,990	1,465,477	1,811	182,455	11,616	1,711,251	8,275	1,316,038	10,072	835,90
	OH-Primary/Neutral	155,182	20,735,933	110,920	11,403,222	135,265	18,154,581	56,987	6,954,675		10,705,37
	OH-SEC Splices and Connectors	1,136	78,534	1,442	65,573	2,779	275,914	1,214	87,138	1,304	95,76
	OH-Secondaries/Services	2,577	267,659				486,552	2,361	243,079		270,23
	OH-Switch/Automatic	17,114	1,662,503				1,977,567	21,615	2,144,995		2,407,41
	OH-Switch/Manual/AB/Disc/OS/LBD	10,452	1,489,230				1,054,227	15,794	1,260,374		1,024,19
	OH-Tap Fuse/Cutout	9,604	1,470,105			12,919	1,693,432	9,242	1,143,457		1,048,75
	OH-Transformer	13,078	1,756,699	12,787	1,718,849	11,332	1,725,239	10,490	1,553,114	8,980	1,303,70
	OH-Transformer Fuse/Cutout	16,072	2,086,304		2,222,051	23,293	2,766,684	19,823	2,345,677		1,965,90
	UG-Elbows	67	19,936			136	34,463	221	39,743		41,14
	UG-Lightning Arrester	12	3,831	32			12,333	85	19,657		
	UG-Load Break Junctions	37	10,963			28	10,973	161	42,043		
	UG-Low Tension Network	1	1,538			10	2,893			1	8
	UG-Other Equipment(explain)	284	70,130		22,549		22,973	836	296,418	46	
	UG-Pads/Vaults/MHs & Splice Boxes	41	10,461	181	45,952		26,175	242	64,941		9,01
	UG-PRI Splices and Connectors	338	88,619			96	19,748	2,718	363,456		37,66
	UG-Primary Cable/Neutral	16,728	4,290,588				4,776,145	17,275	3,285,692		3,414,04
	UG-Riser Pole Equip & Devices	2,010	192,486	428		3,395	527,705	889	209,910		242,86
	UG-SEC Splices and Connectors	3	843				4,237	5	359		1,11
	UG-Secondaries/Services	226	64,598			428	138,911	372	84,825		25,74
	UG-Switchgear	169	10,245	909			164,350	1,271	246,905		151,36
	UG-Transformer/Transformer Fuse	1,926	472,567	1,621	371,035		444,280	1,950	513,487		368,79
Substation	SUB-Circuit Breaker	75,565	3,594,404	30,673			972,821	20,472	956,829		1,830,22
	SUB-Control/Relay	8,222	479,127	7,714			15,248			4,919	231,76
	SUB-Insulator	3,796	155,819							5,353	178,09
	SUB-Lightning Arrester	-/		13,002	417,904	128	17,293	1	77		15,22
	SUB-Power Fuse	4,088	159,877	180			12,795	3,149	266,509		148,91
	SUB-Power Wiring	1,000	100,017	100	277200	1,813	205,150	5,215	200,505	.,	110,51
	SUB-Structure					1,015	200,100	335	11,445	1	
	SUB-Switch/Automatic	2,676	119,863	7,972	123,951	20,849	2,121,410	1,363	55,084		102,21
	SUB-Switch/Manual/AB/Disc/LBD	14	838		71,515	2,594	331,214	1,505	55,004	1,964	42,67
	Sub-Transformer	14	050	1,501	, 1, 515	2,394	180,278			1,904	+2,07
	SUB-Transformer	12,440	830,058	9,391	941,740		905,741	1,671	162,884	6,479	315,17
Total		419,442						266,187	30,790,059		

Outage Contribution By Component - Equipment Failure Cause - Non Major Ever

PPL Electric Utilities Corp.

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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-17

Request:

What are the fully identified and defined services the Service Company presently provides to Narragansett that it will continue to provide under the TSA? Please provide the identified list of over 200 services referenced in Mr. Dudkin's testimony (at 26:4 - 27:4). Provide a list of each service that the Service Company will provide and which service PPL will provide for Narragansett as of Day 1 following the completion of the transaction.

Response:

The "identified list of over 200 services" has been modified since the initial filing as a result of the ongoing integration and transition work by PPL and National Grid. The TSA services to be provided by National Grid are not yet fully identified and defined, and the services that PPL will provide for the operation of Narragansett also have not yet been fully identified and defined. Please refer to National Grid USA and The Narragansett Electric Company's response to data request Division 1-28 and Attachments NG-DIV-1-28-1 and NG DIV1-28-2-1 through NG-DIV 1-28-2-14. As the planning process progresses, PPL and National Grid integration teams will continue to refine TSA services required to operate Narragansett as of Day 1, as well as those functions for which PPL will have full responsibility as of Day 1.

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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-20

Request:

On pages 23 and 24 of Mr. Dudkin's testimony, he discusses the TSA. What contingency plans does PPL have in place to address the potential that the transition is not completed within the forecasted two-year transition period?

Response:

At this time PPL and National Grid anticipate that the transition services will be completed within the two-year transition period based upon negotiations and efforts to date. If it appears that any services will need to be provided beyond the two-year transition period, PPL and National Grid have the ability to negotiate to extend the provision of any such specific services beyond the twoyear period.

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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-31

Request:

What are the projected costs of the Integration Management Office and Transition Management Office initiatives through the end of the transition period?

Response:

PPL and PPL RI do not currently have projections for the costs of the Integration Management Office and Transition Management Office initiatives through the end of the transition period. Both PPL and National Grid are currently working on scope, schedule and estimating the ongoing internal and external costs relating to i) standing up the transition for Day 1, ii) defining and delivering the transition services, and iii) winding down and exiting the transition services.

Once PPL and PPL RI have prepared such cost projections, they will provide a supplemental response to this data request.

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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-32

Request:

Mr. Sorgi states (at 16:12-14) that "PPL or its affiliates expect to extend employment offers to certain employees of National Grid USA and/or its affiliates, including National Grid USA Service Company, Inc., who currently provide services to Narragansett." Please:

- a. Explain in detail how PPL will fill the positions for each Narragansett, National Grid, or Service Company employee who does not accept a position with PPL.
- b. Provide the estimated cost to fill all of these positions, and explain whether the related costs (for example, sign-on bonuses, relocation packages, or expanded benefits) will be allocated to RI ratepayers.

Response:

a. PPL and PPL RI are in the process of determining the positions needed for services that are currently being provided to Narragansett by National Grid USA Service Company, Inc. or its affiliates. If PPL does have positions that cannot be filled by a National Grid USA or Service Company employee, PPL would follow its normal hiring process of posting any such positions for external candidates to apply, interviewing candidates and then ultimately selecting an external candidate.

b. Because PPL and PPL RI have not determined what positions may be needed, it has not performed an analysis of the estimated costs to fill any such positions. Further, PPL and PPL RI have not done an analysis of whether it would be appropriate to allocate such costs to Rhode Island customers because, at this point, any such costs are speculative and a determination of whether such allocation would be appropriate will be made on a case-by-case basis.

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 Division's Second Set of Data Requests Issued on June 11, 2021

Division 2-43

Request:

On page 9, line 10 of Mr. Dudkin's testimony, he indicates that PPL continuously analyzes its infrastructure. Please:

- a. Describe the types of analyses PPL conducts to achieve this objective and provide examples of the studies and documents prepared, including all modeling procedures.
- b. Provide any studies, reports, or other Documents prepared by PPL comparing the analyses referenced in Mr. Dudkin's testimony (at 9:7-15) to the National Grid Electric Infrastructure, Safety, and Reliability Plan and Gas Infrastructure, Safety, and Reliability Plan.

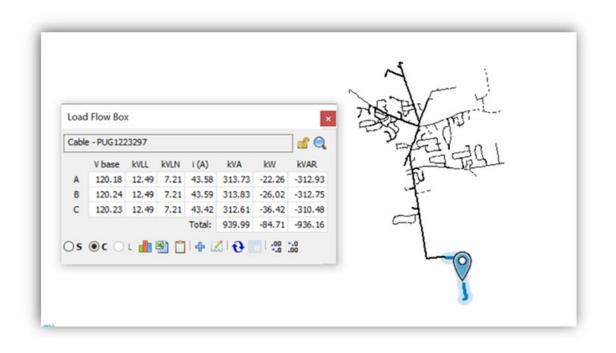
Response:

a. PPL Electric PPL Electric conducts several types of analyses of its assets and infrastructure, including but not limited to, predictive health, risk, and cost benefit analyses. PPL Electric's asset health and risk-based analyses explore multiple data sources to determine leading causes of asset failures. These causes and key findings are then weighed against risks, including, but not limited to, safety, reliability impact to customer, customer exposure, and loading to effectively prioritize and plan necessary remediations or improvements. These analyses inclusively support PPL Electric in making prudent investment decisions to ensure the most cost-effective, reliable solutions for its customers. Please see Attachment PPL-DIV 2-43-1 for an example of a data analytics project for disconnect switches.

PPL Electric also conducts routine transmission studies to aid in the creation of our long-term transmission plan. These studies include Steady State Network Analyses conducted at varying load levels. A list of these studies can be found in Table 1-1 in the PPL Planning Criteria document (<u>https://www.pjm.com/-/media/planning/planning-criteria/ppl-planning-criteria.ashx</u>). The document also includes information on study methodology, assumptions, and criteria used to bound the studies.

Lastly, PPL Electric conducts semiannual CYME studies of its distribution feeders. These studies are conducted to verify feeder loading and voltage. If any anomalies are identified during this process, a job is created to address the violation with a short-term solution and/or a capital investment project that mitigates the violation with a long-term solution. An example screenshot of a CYME study is below.

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 Division's Second Set of Data Requests Issued on June 11, 2021



b. PPL and PPL RI do not currently have any documents responsive to this request for any studies, reports, or other Documents prepared by PPL comparing the analyses referenced in Mr. Dudkin's testimony (at 9:7-15) to the National Grid Electric Infrastructure, Safety, and Reliability Plan and Gas Infrastructure, Safety, and Reliability Plan.

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 Division's Seventh Set of Data Requests Issued on August 31, 2021

Division 7-41

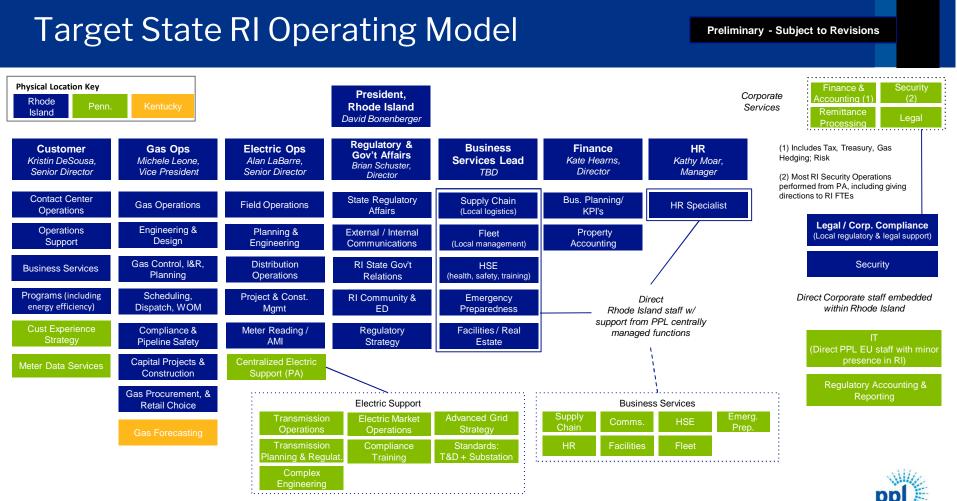
Request:

Provide a copy of the PPL operating model discussed on page 17 of Mr. Sobolewski's testimony.

Response:

See Attachment PPL-DIV 7-41-1 for a chart depicting the current version of PPL's target Rhode Island operating model structure. Additionally, PPL has described its operating model in its response to data request Division 2-1, and described its operating philosophy in its response to data request Division 6-1.c.

PPL CORPORATION, PPL RHODE ISLAND HOLDINGS, LLC NATIONAL GRID USA, and THE NARRAGANSETT ELECTRONIC COMPANY Docket No. D-21-09 Attachment PPL-DIV 7-41-1 Page 1 of 1



1 PPL CORPORATION

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 Division's Seventh Set of Data Requests Issued on August 31, 2021

Division 7-47

Request:

Referencing PPL's response to DIV 2-43, provide all documents that demonstrate PPL can produce a Long Range Plan and short term studies like the National Grid ISR Plan.

Response:

PPL has experience and expertise in preparing long and short term plans and studies similar to the National Grid ISR Plan. PPL has provided explanations and examples of these plans and studies in its response to Division 2-14 and 2-43. In addition, experienced National Grid system planners and engineering leadership will be joining PPL staff and will work in Rhode Island post-Transaction close. As such, distribution system planning work product will continue to be delivered in a manner that supports the ISR Plan and meets the Rhode Island Division of Public Utilities and Carriers and Rhode Island Public Utilities Commission's expectations.

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 Division's Ninth Set of Data Requests Issued on October 1, 2021

REDACTED Division 9-31

Request:

CONFIDENTIAL REQUEST

Response:

PPL did not visit any distribution substations on the Narragansett system prior to the execution of the transaction agreement.

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 Division's Ninth Set of Data Requests Issued on October 1, 2021

REDACTED Division 9-33

Request:

CONFIDENTIAL REQUEST

Response:

PPL and PPL RI's reference to taking a "fresh look at the investments needed" was a reference to their plan to conduct a complete assessment of all aspects of Narragansett's transmission and distribution infrastructure to determine what investments it identifies as necessary to facilitate "a truly integrated electric grid that can support a high penetration of renewables." PPL and PPL RI described that assessment as a "fresh look" to signify that they will not start from the assumption that the investments proposed previously by Narragansett while owned by National Grid USA are the investments PPL and PPL RI plan to propose. Rather PPL and PPL RI will conduct a complete assessment to create its proposed investment plan for grid modernization, taking into account the plan already set forth by National Grid in the exercise of PPL's judgment and expertise based on its experience. Such a "fresh look" is appropriate and necessary because PPL and PPL RI will be the new owners and operators of Narragansett and will bring their unique experience and expertise in investing in the grid of the future to that operation to optimize PPL and PPL RI's operation of Narragansett and integration of renewable generation after the Transaction closes.

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 Division's Ninth Set of Data Requests Issued on October 1, 2021

REDACTED Division 9-34

Request:

CONFIDENTIAL REQUEST

Response:

Attachment PPL-DIV 6-2-3 CONFIDENTIAL was prepared during the initial due diligence process and PPL does not currently have any additional sources or details in support of the referenced statement. PPL and PPL RI will continue to analyze Narragansett's advanced metering proposal as this regulatory approval process for PPL RI's purchase of Narragansett proceeds. PPL and PPL RI expect to have Narragansett prepare and file updated advanced metering plans after the closing of the Transaction, which will address the budget of the program.

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 Division's Ninth Set of Data Requests Issued on October 1, 2021

Division 9-55

Request:

Referencing the organizational chart provided in response to DIV 2-24, please identify the PPL positions that will perform Supplier Services and Retail Choice Program functions for electricity and natural gas and the individual(s) on the leadership team listed in the response to whom these positions will report.

Response:

Transition Service Agreement ("TSA") exit plans are still under development; however, it is expected the full transition of these functions to PPL and PPL RI will take 18-24 months. The transition plan will include, but is not limited to, training, knowledge transfer and technology implementation required to take over and support the Retail Choice programs. Headcount and estimated costs to support Supplier Services functions and Retail Choice Programs are included in the functional summaries detailed in Attachment PPL-DIV 1-54-1. Specific positions and future state reporting relationships have not been determined at this time.

CONFIDENTIAL