STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION

The Narragansett Electric Company
d/b/a Rhode Island Energy

Docket No. 22-53-EL

RE: FY 2023-2024 Electric Infrastructure,
Safety, and Reliability Plan

PREFILED DIRECT TESTIMONY OF

Gregory L. Booth, PE
President, Gregory L. Booth, PLLC
On Behalf of Rhode Island Division of Public Utilities and Carriers

February 23, 2023

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Prefiled Direct Testimony of

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DIRECT TESTIMONY OF GREGORY L. BOOTH, PE

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND THE BUSINESS ADDRESS OF YOUR EMPLOYER.

A. My name is Gregory L. Booth. My company is Gregory L. Booth, PLLC ("Booth, PLLC"), mailing address 14460 Falls of Neuse Road, Suite 149-110, Raleigh, North Carolina 27614.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS MATTER?

A. I am testifying on behalf of the Rhode Island Division of Public Utilities and Carriers ("Division").

Q. WOULD YOU PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND?

A. I graduated from North Carolina State University in Raleigh, North Carolina in 1969 with a Bachelor of Science Degree in Electrical Engineering, and was inducted into the North Carolina State University Department of Electrical and Computer Engineering Alumni Hall of Fame in November 2016. I am a registered professional engineer in twenty-three (23) states, including Rhode Island, as well as the District of Columbia. I am a registered land surveyor in North Carolina. I am also registered under the National Council of Examiners for Engineering and Surveying.

Q. ARE YOU A MEMBER OF ANY PROFESSIONAL SOCIETIES?

A. I am an active member of the National Society of Professional Engineers ("NSPE"), the Professional Engineers of North Carolina ("PENC"), the Institute of Electrical and Electronics Engineers ("IEEE"), American Public Power Association ("APPA"), American Standards and Testing Materials Association ("ASTM"), the National Fire Protection Association ("NFPA"), and Professional Engineers in Private Practice ("PEPP"). I have

also served as a member of the IEEE Distribution Subcommittee on Reliability and as an advisory member of the National Rural Electric Cooperative Association ("NRECA")-Cooperative Research Network, which is an organization similar to EPRI.

Q. PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE WITH ELECTRIC UTILITIES.

A. I have worked in the area of electric utility and telecommunication engineering and management services since 1963. I have been actively involved in all aspects of electric utility planning, design and construction, including generation, transmission, and distribution systems, and North American Electric Reliability Corporation ("NERC") compliance.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT BEFORE THE RHODE ISLAND PUBLIC UTILITIES COMMISSION?

A. Yes. I have testified before the Rhode Island Public Utilities Commission on numerous matters, including Docket Nos. 2489, 2509, 2930, 3564, 3732, 4029, 4218, 4237, 4307, 4360, 4382, 4770/4780, 4473, 4483, 4513, 4539, 4592, 4614, 4682, 4783, 4857, 4915, 4995, 5077, 5098, 5209, 5235, D-11-94, D-17-45, and D-21-09. My testimony in Rhode Island has included filed and live testimony on previous Electric Infrastructure, Safety and Reliability Plan Fiscal Year Proposal filings by National Grid in Docket Nos. 4218, 4307, 4382, 4473, 4539, 4592, 4682, 4783, 4915, 4995, 5098, and 5209.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT IN OTHER JURISDICTIONS?

A. I have testified before the Federal Energy Regulatory Commission ("FERC") and numerous state commissions, including in Connecticut, Delaware, Florida, Georgia,

Maine, Maryland, Massachusetts, Minnesota, New Jersey, North Carolina, Pennsylvania, South Carolina and Virginia.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of my testimony is to introduce *Exhibit GLB-1*, Report of Gregory L. Booth, PE on the review of Rhode Island Energy's ("RIE" or "Company") Proposed CY 2023-2024 Electric Infrastructure, Safety and Reliability Plan initially provided to the Division on October 21, 2022 ("ISR Plan"). My testimony will briefly summarize the process between the Division and RIE, which did not result in consensus of the final Electric Infrastructure, Safety, and Reliability Plan CY 2023-2024 Proposal filed with the Commission by RIE on December 23, 2022 and dated December 22, 2022. RIE then filed on January 27, 2023, a Supplemental Budget for April 1, 2023 through March 31, 2024 consistent with the directives issued by the Public Utilities Commission during an Open Meeting that occurred on January 20, 2023. My testimony also summarizes the details of *Exhibit GLB-1* and my recommendations. As I will discuss more fully in this testimony, the structure of the report and this testimony varies from past filings. The process in this Docket 22-53-EL involved an analysis of a 21-month initial proposed ISR Plan and a filed 21-month ISR Plan, as opposed to the historical 12-month ISR Plans. This testimony and my report first address the process of my 21-month filing evaluation and observations regarding the work effort performed during the Division's statutory evaluation period which informs the recommendations. I then address the Supplemental Budget filed January 27, 2023, for a 12-month fiscal year ISR Plan. I recognize this complicates testimony and report reading for the parties; however, it is essential to create the proper record of the process to maintain the integrity of the evaluation process in a manner consistent with all previous ISR Plan filings.

III. ISR PLAN EVALUATION PROCESS

Q. WOULD YOU BRIEFLY OUTLINE THE PROCESS WHICH LED TO THE DIVISION'S LACK OF SUPPORT OF THE RIE ISR PLAN FILED IN THIS DOCKET?

A. Yes. I will first start with a broader overview, and then provide details. Historically, the Company and Division recognized that the statutory 60-day collaboration period was insufficient to adequately address all issues and details, including allowing the Company time to respond to the Division's extensive data requests. For that reason, the Company would file its proposed ISR Plan in August or September providing both parties at least 90 days for review of the 12-month plan. This year, RIE filed a 21-month plan on October 21, 2022, which only allowed for the statutory 60-day evaluation period. This was simply not sufficient time to evaluate a plan that was not only 21-months, but also included an increase in capital spending of some 200 percent from recent historical plans, in addition to a completely new circuit recloser program and very large grid modernization component prior to the Company filing its Grid Modernization Plan ("GMP"). With the shorter than typical review period, the Division did not have sufficient time to fully vet the filing, data request responses, and conduct the necessary evaluation to reach a consensus.

Q. DID ANY ADDITIONAL FACTORS CONTRIBUTE TO THE LACK OF CONSENSUS BETWEEN THE DIVISION AND THE COMPANY?

A. Yes. Given that the Company is under new ownership and new leadership, which brings with it a new approach and a distinct philosophy, conferences between the Division and the Company encountered obstacles and communications challenges from the onset. With the "growing pains" associated with the new dynamic, and little time to get in sync, the prospect for productive negotiation and full or partial settlement was not feasible. By way

of example, RIE early on indicated that the PPL risk assessment and risk tolerance was different than National Grid. Additionally, the Company presented a concerning trend of justifying the same system improvements under different categories, such as "non-discretionary" reclosers, implying that the need is driven by customer load and reliability, and also, "discretionary" reclosers also driven by load and reliability. These types of positions being taken by the Company is a dramatic departure from all the previous ISR Plans. Resultingly, and despite good faith attempts to work with the Company and work through certain impasses, the Division recognized the process was not progressing in the same manner as with the prior 10 ISR Plan reviews. Ultimately, given that it is the Company's responsibility to explain and support the details of its filed plan, the Division determined that the best course was to proceed to the formal vetting process before the Commission.

Q. IN PAST ISR PLAN FILINGS YOU INCLUDED A TABLE SHOWING THE COMPANY'S ORIGINAL PROPOSAL AND THE ADJUSTED CONSENSUS POSITION OF THE DIVISION AND COMPANY. DO YOU HAVE A SIMILAR TABLE FOR THIS FILING?

A. I do not. The Company was firm on the need for a 21-month plan and for all the proposed capital, including the grid modernization capital. Therefore, there was no middle ground or consensus position reached. The Division did provide our capital budget position to the Company; however, it did not result in an agreement. *Exhibit GLB-1* ("Report"), which is my report, goes into detail concerning our position on the first 9 months of capital, the next 12 months of capital and the total 21-month plan capital recommendation. A separate section of my Report addresses the 12-month Supplemental Budget.

Q. IN SUMMARY, THE DIVISION DID NOT REACH AGREEMENT WITH THE COMPANY AND THIS TESTIMONY PRESENTS THE DIVISION'S POSITION ON THE FILED PLAN. IS THAT CORRECT?

A. Yes. My Report, as stated earlier, addresses the original 21-month filed plan, and then separately addresses the 12-month Supplemental Budget.

Q. WOULD YOU THEN PROVIDE AN OVERVIEW OF YOUR ISSUES AND HOW YOU HAVE ORGANIZED YOUR TESTIMONY TO PRESENT YOUR POSITION?

A. Certainly. We have approached our assessment and recommendations using the same process and applying the same standards as with prior ISR Plans. Infrastructure needs, safety and reliability are all assessed in the context of short-term and long-term costs and affordability to the ratepayer. The average retail price of electricity in Rhode Island is fifth highest in the United States[1], and this should certainly be considered when considering costly projects and improvements. RIE had proposed an ISR Plan which is a nearly 200 percent increase over last year and more than 300 percent above ISR Plan years in which there were not major projects, such as the South Street substation complete rebuild. Some $95 million is proposed in grid modernization and recloser additions. This is nearly equal to last year's entire ISR Plan absent any GMP filing or studies for justification. These are among other categories which have been dramatically increased in budget spend beyond any acceptable level. Additionally, the Division made it abundantly clear to the Company that it cannot support a 21-month ISR Plan. The January 20, 2023, Open Meeting directive by the Commission reconciled this disputed item and therefore on January 27, 2023 the Company filed a completely new ISR Plan fiscal year April 1, 2023 through March 31,

[1] EIA 2021 Electricity Profile - Rhode Island

2024 budget. My Report addresses each of the budget filings in detail. I will not repeat or even summarize my Report discussion of the October 21, 2022 or December 22, 2022 RIE Proposed ISR Plan budgets here. This testimony will simply introduce the Report and summarize the recommendations specific to the RIE ISR Plan Filing with the Commission, and the Fiscal Year FY 2024 ISR Plan 12-month Supplemental Budget. My Report addresses the FY 2024 ISR Plan 12-month Supplemental Budget separately in Appendix 3 of the Report. I will address each area of concern and our recommendations separately.

The Division and RIE failed to reach an agreement concerning any adjustments to the RIE proposed ISR Plan. The following table summarizes the RIE proposed budget filed January 27, 2023, the Division's proposed adjustments by category and the Division's recommended FY 2024 budget.

Table GLB-1
$(000)

RIE Supplemental FY 2024 ISR PLAN with Division Adjustments	RIE FY 2024 Supplemental Budget Proposal (12-months) 1-27-23	Division FY 2024 Revised Adjustments	Division FY 2024 Revised Proposed Budget (12-months)
Customer Request/Public Requirement	$27,514	-	$27,514
Damage Failure	$15,192	-	$15,192
Grid Modernization Plan	$45,785	($45,785)	$0
Subtotal Non-Discretionary Total	***$88,491***	***($45,785)***	***$42,706***
Asset Condition			
Major Projects & Area Studies	$34,380	($10,000)	$24,380
UG/URD	$11,775	-	$11,775
Recurring Projects/I&M	$10,270	-	$10,270
Total Asset Condition	**$56,426**	**($10,000)**	**$46,426**
Non-Infrastructure	$1,700	-	$1,700
System Capacity & Performance			
Major Projects & Area Studies	$10,772	-	$10,772
Nasonville	$1,912	-	$1,912
Mainline Reclosers	$9,504	($9,504)	$0
Other	$7,514	-	$7,514
Total System Capacity	**$29,701**	**($9,504)**	**$20,197**
Subtotal Discretionary Total	***$87,827***	***($19,504)***	***$68,323***
Grand Total Capital	**$176,318**	**($65,289)**	**$111,029**

Vegetation Management	$13,950	$0	$13,950
O&M*	$2,796	($1,633)	$1,163

**O&M adjustment for GMP*

IV. REPORT SUMMARY

Q. PLEASE BRIEFLY SUMMARIZE YOUR REPORT ATTACHED AS *EXHIBIT GLB-1* ("REPORT").

A. The Report contains an Introduction describing the overall process, including the progression through the October 21, 2022 and December 22, 2022 RIE proposed 21-month ISR Plan filings, summarizing the adjustments and Division position on these filings. The Report structure has an Appendix 3 addressing the RIE January 27, 2023 proposed 12-month ISR Plan Supplemental Budget filing. RIE filed a proposal with the Division for a 21-month ISR Plan on October 21, 2022 of $323.7 million. The Division provided RIE its recommendation for 9 months of the 21-month CY 2023 filing at $85.9 million. Next RIE filed with the Commission a proposed 21-month FY 2024 ISR Plan, dated December 22, 2022, in the amount of $327.8 million. On January 27, 2023, RIE filed a Supplemental Budget for FY 2024 (April 1, 2023 through March 31, 2024) of $176.3 million consistent with the Commission's directive in the Open Meeting of January 20, 2023. This January 27, 2023 filing included $45.8 million in grid modernization capital budget spending. The Division's recommendation for a FY 2024 ISR Plan, based on the most recent January 27, 2023 RIE filing, is $111.03 million. The Report section on the Capital Investment Plan discusses in detail each major category: Customer Request/Public Requirements; Damage/Failure; Asset Condition; Non-Infrastructure; and System Capacity and Performance, outlining the issues considered, the adjustments proposed, and the reasoning for the adjustments. Grid modernization is separately addressed in the Report and is considered premature and proactive absent any justification for early advancement of capital spending prior to implementation of AMF and a comprehensive communication system capable of communicating both within Rhode Island and back to the PPL control

center. A detailed summary chart contained in the Report's Appendix 2 shows each Spending Rationale and Budget Class with the October 21, 2022 initial proposed budget, and the December 22, 2022 proposed budget filing with the Commission documenting the net adjustments recommended by the Division. The Report's Appendix 3 specifically addressing the RIE January 27, 2023, FY 2024 Supplemental Budget and provides a similar table which shows the Spending Rationale and Budget Class with the Division's recommended adjustments and budget to be $111 million.

The Report discusses how the collaborative process between the Division and RIE failed to result in agreement on a budget. The Division has previously outlined cautions that some of the proposed spending included premature installation of Distributed Energy Resources ("DER") projects in advance of a fully developed and filed GMP with Commission approval. While the GMP is now filed, it has not been through the docket assessment and approval process.

The Report contains a conclusion which addresses the FY 2024 ISR Plan Supplemental Budget as filed by RIE on January 27, 2023. The conclusion includes sixteen (16) recommendations related to the capital investment, O&M, and vegetation management portions of the ISR Plan. Many of these recommendations are a continuation of previous ISR Plan recommendations approved by the Commission and previously collaboratively advanced by the Company. Emphasis remains on the need for the Company to complete all Area Studies, to begin the next cycle of Area Study updates, and to create a single Long-Range Plan that supports major System Capacity and Asset Condition projects. These

studies should take into account robust evaluation metrics that include Non-Wires Alternatives ("NWA"), where applicable.

In addition, there is a continued need to develop an alignment between ISR Plan core programs and those arising from external initiatives as the Company, Commission Staff, Division, and stakeholders work to develop a more holistic, transparent, and forward-looking planning process, including, but not limited to, the GMP. For some time now, the Company has been incorporating significantly more asset condition driven projects. Due to the age and condition of much of the system, these projects need to advance and are supported by the Area Studies. The Division is concerned, however, that once the GMP is advanced through the docket process, there will become a dramatic upward pressure on rates. This is very apparent in the initial GMP filing by RIE made December 30, 2022. The Division believes that the nearly 400 percent increase in capital spending on asset condition projects since the early years of the ISR Plan filings will need to be reduced in a carefully planned manner in order to provide budget availability for the pending AMF and GMP programs if and when they are approved. Specifically, the Division strongly opposes the premature advancement of GMP spending in the FY 2024 ISR Plan prior to the completion of the GMP filing review and Commission ruling in Docket 22-56-EL. The Division cannot accept the benefit-cost analysis ("BCA") advanced in the GMP until it has been fully analyzed and has progressed through the regulatory process. GMP must also be evaluated in the context of potential AMF approval and implementation, since advanced metering is foundational to GMP. The GMP components must be fully vetted to determine if system improvements support core reliability, or discretionary spending, as opposed to non-discretionary investments driven by imminent customer needs.

The $45 million of grid modernization spending proposed is premature and accomplishes little toward reliability enhancement or DER enablement. Until AMF is fully functional, and a comprehensive telecommunications system is fully functional, grid modernization equipment will have no real functional benefit. Additionally, RIE has proposed advancement of an aggressive circuit recloser addition program absent any studies or quantifiable justification presented to the Division. I continue to recommend that the Company and Division address potential overlap between non-discretionary spend in the Damage/Failure category, and discretionary spend in the Inspection & Maintenance ("I&M") and Asset Replacement programs. This includes my ongoing support for I&M capital funding that results in an I&M repair cycle of 10 or more years. The Company has been successfully implementing the I&M repair program at this level since FY 2015 without compromising safety or reliability.

V. GRID MODERNIZATION

Q. THE FY 2024 SUPPLEMENTAL BUDGET FILING INCLUDED $45.9 MILLION IN GRID MODERNIZATION CAPITAL SPENDING. YOU HAVE RECOMMENDED REMOVING ALL $45.9 MILLION. WOULD YOU BRIEFLY SUMMARIZE WHY?

A. I will provide a short summary of why the entire grid modernization budget proposed in FY 2024 should be removed, since my Report provides a very detailed discussion in support of our recommendation for removal of all these budget dollars in FY 2024. First and foremost, the GMP was not filed until December 30, 2022, and is just now beginning to advance through the regulatory process. Consistent with prior procedures, the GMP program and budgeting approval should progress through the entire regulatory assessment process, such as occurred with Docket No. 4780 combined with Docket No. 4770. Second, the ISR Plan failed to provide justification for this massive advancement of GMP except to say that RIE needed to make immediate investments in grid modernization while the timetable and needs in the GMP remain unapproved. Additionally, there is no statistical support requiring a rushed grid modernization capital spending program since reliability has remained and continues to remain well within the Commission guidelines. Furthermore, as stated above, numerous other programs need to be advanced and fully functional before the grid modernization components proposed should be advanced. Also, RIE's arguments that grid modernization investments are required now to integrate and manage forecasted DER are unfounded and have not been required to date. Furthermore, limited land availability may make significant additional penetration of larger DER projects on the distribution system less feasible and certainly slows down the pace of adoption than has occurred to date. In addition, asset condition projects and Vegetation

Management Programs will continue to improve already acceptable reliability statistics. RIE claimed that the proposed Vegetation Management Program enhancements at higher costs will lead to 15 to 18 percent improvements in SAIFI. While that claim is yet to be proven, it points to the fact programs outside GMP will most certainly improve already very good reliability. Thus, premature and exceedingly costly grid modernization additions before the full regulatory process has been completed is not advisable.

Q. IS THE AMF SYSTEM ADVANCEMENT ONE OF THE PROGRAMS WHICH NEEDS TO BE COMPLETED BEFORE GRID MODERNIZATION MAJOR EXPENDITURES COMMENCE?

A. Yes. The AMF system is most certainly an essential component to any grid modernization plan and combined with a comprehensive and fully integrated telecommunications network must be fully functional for grid modernization to have true effectiveness and benefit to the system and customers. RIE made a similar point in their AMF filing in Docket 22-49-EL, stating that grid modernization cannot be fully realized without AMF, making AMF a prerequisite and further referring to it as the "linchpin".[2] I point to the fact that AMF, if approved as RIE proposes, will be three and a half years or more before it is installed and fully functional. More importantly, the full communication network including integration with PPL's Advanced Distribution Management System ("ADMS") has not been adequately outlined or scheduled. Both AMF and GMP rely on this fundamental communication network and system integration for operations and to achieve expected benefits. It is only logical that sizable grid modernization capital investments should await completion of AMF and the telecommunication network. Most certainly, grid modernization capital should not be prematurely inserted into the FY 2024 ISR Plan.

[2] See Docket 22-49-EL, AMF Business Case, Pre-filed Direct Testimony of David J, Bonenberger at 10:1-12.

VI. RECLOSER ADDITION CATEGORY

Q. RIE IS PROPOSING THE ADDITION OF APPROXIMATELY $9.5 MILLION IN NEW CIRCUIT RECLOSERS. YOU PROPOSE REMOVING ALL $9.5 MILLION FROM THE BUDGET. WOULD YOU EXPLAIN YOUR RATIONALE?

A. Yes. The Company performed no system protective coordination study to justify these additions, and it did not sufficiently demonstrate the need, the location or the manner in which they will be coordinated to achieve any additional level of outage reduction. The standard of care in the electric utility industry for power line protective equipment additions, and particularly major programs, is to complete a protective coordination study. National Grid had completed a study in 2016 of its Form 3A recloser controls and the need for replacement. The Division supported this program and the results of the study.

RIE has stated to the Division that it believes no study is necessary and that once it installs these reclosers it will study the individual feeders upon which they are installed. First, studies are the customary practice to determine needs, such as the Area Studies for substations and additional capacity. A decision to install 100 reclosers absent a study does not align with good utility planning practices. That would be analogous to a department of transportation arbitrarily adding 100 traffic lights with no understanding as to how they would impact traffic flow. In my experience of more than 50 years, utilities complete the protective coordination study first and from that study determine what protective equipment is needed, at what locations, and with what settings. This experience includes practices of major investor-owned utilities, electric cooperatives, and electric municipals.

Q YOU STATE PROTECTIVE COORDINATION STUDIES ARE THE STANDARD OF CARE. WOULD YOU EXPLAIN?

A. The standard of care includes the standards, recommendations and practices of the Institute of Electrical and Electronics Engineers ("IEEE"), which is the most influential and widely used standards organization for the electric industry, combined with standards of electric utilities, including major national utilities such as Duke Energy. All of these standards, recommendations, and practices expect protective coordination studies to be completed both routinely and as system changes occur. For instance, Duke Energy states in its protective coordination standards: "The following conditions require a review of overcurrent protection in an effort to enhance circuit reliability:

- Load growth or load transfer
- Circuit source impedance change or voltage conversion
- Excessive circuit outages and/or customer complaints
- Addition of co-generation units capable of exporting power
- New circuits
- Overloaded segments or equipment predicted or discovered
- Five years since last review"

RIE did not produce any studies; it claimed they are not required to support its 100 recloser additions. The system has seen a significant number of changes due to several of the drivers listed above, including source impedance change (such as the New England East West transmission system upgrade), significant addition of distributed generation, and major new substations and circuits (South Street, Aquidneck Island and Southeast are just a few). Yet RIE cannot produce a study for all circuits completed within the past 5 years, and it opposes completing a current study. A study would most likely identify the need for relocation of existing devices, changes in settings on existing devices, and potentially

adding new devices or replacing of existing devices. However, any of these decisions should utilize a protective coordination study to make an informed decision. RIE proposes to make $9.5 million in recloser additions without the necessary support or study, and further proposes over $128 million of proposed recloser additions in the 5-year GMP.

Q. RIE RESPONDED TO DATA REQUESTS INDICATING THE 100 RECLOSERS WOULD ELIMINATE 31 OUTAGES, AND RESULT IN A CUSTOMER BENEFIT OF $3,000,000 PER YEAR? ISN'T THAT SUPPORT ENOUGH?

A. No. Without a study, RIE's claim is unsupported. Absent a study to demonstrate the locations and settings needed, and the likelihood of comparable future faults to historical faults that could and are being mitigated by vegetation management, the projections are significantly overstated and unsupported by any facts. Furthermore, RIE has stated that it does not currently know if it will transition to the PPL protective coordination philosophy or remain with the National Grid philosophy. The Company did state it would likely remain with the National Grid fuse blow philosophy, however, it is using PPL demonstrated benefits to justify its estimates and programs. PPL has a fuse save and dramatically different philosophy than that which RIE plans to use, on top of the fact that they have geographically and demographically different systems. Due to the compactness of the RIE system, response to outages is much faster than with the typical utility system. RIE argues it will significantly improve SAIFI and SAIDI, however, this is not accurate. The improvement even at the RIE projected level is so small it will minimally affect the system statistics. Lastly, the two major categories contributing to outages in Rhode Island are trees and deteriorated equipment. RIE has proposed numerous enhancements to the tree trimming program, including its collaboration with DOT on creating much wider ground-

to-sky right-of-way clearing. These programs will be what contribute to a recognizable improvement in reliability statistics.

Q. ARE YOU AND THE DIVISION COMPLETELY AGAINST THE ADDITION OF RECLOSERS TO THE RIE SYSTEM?

A. Not at all. We recognize that recloser additions, just like new power transformers and substation rebuilds and new lines, are necessary. We cannot, however, support a $9.5 million recloser addition program in advance of a coordination study demonstrating the need and the actual program quantity of additions and improvements by year. Our position is very similar to the Area Study and Long-Range Plan recommendations we have provided in the past, which show how to expand capacity in a much less expensive and more efficient manner. The Division recommends RIE complete a coordination study before adding reclosers. The Company has already expended a great deal on its recloser form 3A program based on a study. It is only prudent for it to create a new study to demonstrate and support this new program.

Q. YOU STATED THAT YOU ARE RELYING ON SOME 50 YEARS OF EXPERIENCE TO SUPPORT YOUR POSITION. COULD YOU PROVIDE A VERY BRIEF SUMMARY OF YOUR EXPERIENCE RELATED TO PROTECTIVE COORDINATION?

A. I have completed hundreds of electric utility system-wide protective coordination studies, many of which have served as the basis for protective equipment additions in construction work plans and construction loans. I have testified in state and federal court, and in regulatory matters on protective coordination involving some 88 different utilities, including regarding their protective coordination studies, system protection enhancement

studies and protective coordination manuals and philosophy. Some of these involved New England utilities, such as Emera and Eversource.

In my experience with hundreds of electric utilities, I have seen first-hand the benefits of a systemwide protective coordination study. Furthermore, these studies are not onerous to perform or expensive to complete.

VII. CONCLUSION

Q. DO YOU AND THE DIVISION SUPPORT THE PROPOSED RIE FY 2024 ELECTRIC ISR PLAN SUPPLEMENTAL BUDGET FOR $176.3 MILLION IN CAPITAL EXPENDITURES?

A. No, the Division cannot support the RIE Supplemental Budget of $176.3 million. The maximum level the Division can support is $111.023 million. Any level above this I find excessive and lacking in justification.

Q. WHAT ARE THE RECOMMENDATIONS YOU HAVE MADE IN YOUR REPORT *EXHIBIT GLB-1*?

A. I have included sixteen (16) recommendations in my report, twelve of which are previous recommendations in past ISR plan processes, and four (4) of which are new recommendations. These recommendations are summarized in the following list, and are provided with additional discussion in the Summary and Recommendations section of my Report.

1. The Company shall complete a systemwide protective coordination study, demonstrating the need, the location, and/or the manner in which reclosers will be coordinated, in advance of progressing major recloser additions.

2. The Company shall deliver a holistic 10-year Long-Range Plan as contemplated in these Recommendations, with all strategic capital investments including AMF and GMP, for Division review by June 1, 2023. The Long-Range Plan must be adequately supported and accompanied by a level of detail that allows stakeholders to sufficiently validate the need, timing and level of proposed investment.

3. The Company shall present new programs, major projects, or material modifications to existing programs to the Division in advance of including the programs in the ISR Plan. The Company shall produce requisite justification at a level of detail to sufficiently validate the need, timing and level of proposed investment, including a benefit-cost analysis. The Company shall also propose a methodology to separately track, measure and validate program costs and benefits.

4. The Company shall not include spend in the ISR Plan for initiatives or programs that are subject to Commission review and/or approval prior to the program progressing through a regulatory proceeding.

5. The Company shall continue to coordinate with the Division to monitor and report on work performed under Damage/Failure, I&M, and related Asset Replacement blanket programs to validate proper classifications. The Company shall put forth program adjustments in the FY 2025 ISR Plan that include advancing Damage/Failure to a "fix on failure" strategy.

6. The Company shall develop an alignment between various planning and project evaluation processes, with consideration as to how a grid modernization strategy may be incorporated. This includes, but is not limited to, the System Reliability Procurement ("SRP") plans, Area Studies, ISR Plan, non-wires alternatives ("NWA") options and internal Design Criteria.

7. The Company shall continue enhancing current and future study documents supporting Asset Replacement and System Capacity programs or projects as applicable to include, at a minimum:

- The traditional elements included in the Company's current studies including, but not limited to, purpose and problem statement, scope and program description, condition assessment/criticality rankings, alternatives considered, solution, cost and timeline.
- Discussion on the impact to related Company initiatives, Commission programs, the various pilot projects, or other requirements driven by SRP, Distribution System Planning ("DSP"), Heat Maps, and emerging initiatives.
- A detailed comparison of recommendations to Area Studies to determine if solutions are aligned with study outcomes, noting adjustments required to avoid redundancy in planning.
- An evaluation of potential incremental investments that support the Company's long-term grid modernization strategy. This includes description of technology or infrastructure investment, cost-benefit to traditional safety and reliability objectives, and additional operational benefits achieved, if implemented. The GMP should be closely correlated with all ISR Plan investments, including both recurring and newly proposed programs.
- A robust NWA evaluation for projects passing initial screening that clearly identifies alternatives considered, costs, and benefits.
- A correlation of the 11 Area Studies to each other for the development of a holistic system Long-Range Plan which further informs the ISR Plan.

8. The Company shall continue to develop a System Capacity Load Study and a 10-year Long-Range Plan in order to increase the level of support and transparency for the capital budget. The Company shall analyze the overall system in a holistic manner using the now completed 11 Area Studies to establish enhancements in the Area Study solutions. The Company shall use the completed Area Studies to re-prioritize and sequence all solutions and major projects in the Long-Range Plan. The Company shall submit and present the outcome of each revised Area Study to the Division at the time of completion. These studies shall include a separate Non-Wire Alternative analysis of the projects consistent with the requirements of other program commitments. The Company shall submit a report with updates on modeling activities, holistic system long-range plan development and revision of each current and future planned Area Study status at least 120 days prior to filing its FY 2025 ISR Plan Proposal, but in any event no later than August 31, 2023.

9. The Company shall manage major Asset Replacement and System Capacity & Performance project budgets separate from other discretionary projects, such that any budget variances (underspend) will not be utilized in other areas of the ISR Plan. The Company shall provide quarterly budgets and project management reports.

10. The Company shall continue to manage (underspend/overspend management) individual project costs within the ISR Plan discretionary category (comprised of Asset Condition and System Capacity and Performance projects), such that total portfolio costs are aligned within a discretionary budget target that excludes major substation projects.

11. The Company shall continue to provide quarterly reporting on Damage/Failure expenditures to include the details of completed projects by operating region. The Company will separately identify Level I projects repaired as a result of the I&M program.

12. The Company shall continue to provide a detailed budget for System Capacity & Performance and Asset Condition in order to allow for transparency on a project level basis for the current and future 4-year period. The budget shall be provided in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

13. The Company shall submit an evaluation of future proposed Asset Condition projects as compared to the Company's Long-Range Plan in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

14. The Company shall continue to submit its detailed substation capacity expansion plans and load projections, and include an evaluation of proposed projects against the Company's Long-Range Plan in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

15. The Company shall continue to submit a cost-benefit analysis on the Vegetation Management Cycle Clearing Program and a separate cost-benefit analysis on the Enhanced Hazard Tree Management program, and an additional assessment of the RIE modifications in the program proposed to deliver a 15 to 18 percent SAIFI improvement for the Division's review prior to submitting the Company's FY 2025 ISR Plan Proposal, and in any event no later than August 31, 2023.

16. The Company shall provide continuous and timely updates on ISR Plan team members and responsibilities, material changes to Company guidelines, standards or processes that affect distribution planning, or any proposed changes to the ISR Plan process. The Company shall, at minimum, provide updates at quarterly presentations of the quarterly reports.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

STATE OF RHODE ISLAND
PUBLIC UTILITIES COMMISSION

REPORT OF

Gregory L. Booth, PE
President, Gregory L. Booth, PLLC
On Behalf of Rhode Island Division of Public Utilities and Carriers
Concerning
The Narragansett Electric Company d/b/a Rhode Island Energy's Proposed FY 2024 Electric Infrastructure, Safety, and Reliability Plan
Docket No. 22-53-EL

February 23, 2023

Prepared by:
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EXHIBIT GLB-1
REPORT OF GREGORY L. BOOTH, PE

PREFACE

Gregory L. Booth, PLLC was engaged by the State of Rhode Island Division of Public Utilities and Carriers ("RIDPUC") to evaluate the Electric Infrastructure, Safety and Reliability ("ISR Plan" or "Plan") Plan FY 2024 Proposal submitted by Rhode Island Energy. As part of the review of the plan, numerous data requests were submitted and responses provided by Rhode Island Energy. Additionally, meetings and conferences were held with Rhode Island Energy and their key personnel involved in the development of the Plan. The Legislative Act amending R.I. Gen Laws §39-1 "Revenue Decoupling", §39-1-27.7.1, provided Rhode Island Energy the right to file an ISR Plan for the prospective fiscal year and receive considerations for the Plan. The statute provides for evaluation by the Division, and for Rhode Island Energy and the Division to attempt to reach an agreement on a proposed plan and submit a mutually agreed upon Plan. The following report describes the process and position reached between the Division and Rhode Island Energy.

EXHIBIT GLB-1
REPORT OF GREGORY L. BOOTH, PE

REPORT OF

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President, Gregory L. Booth, PLLC
On Behalf of Rhode Island Division of Public Utilities and Carriers
Concerning
The Narragansett Electric Company d/b/a Rhode Island Energy's Proposed
FY 2024 Electric Infrastructure, Safety, and Reliability Plan
Docket No. 22-53-EL

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I. EXECUTIVE SUMMARY

Gregory L. Booth, PLLC ("Division Consultant"[1]) was engaged by the Rhode Island Division of Public Utilities and Carriers ("Division") to assist in the evaluation of the initial Rhode Island Energy ("RIE" or "Company") Electric Infrastructure, Safety, and Reliability Plan FY 2024 Proposal (the "ISR Plan" or "Plan") dated October 21, 2022, and the final Electric Infrastructure, Safety, and Reliability Plan FY 2024 Proposal dated December 22, 2022 filed in Docket 22-53-EL. These two filings were both for a 21-month ISR Plan period. This is the first ISR Plan developed and filed by the Company since PPL's acquisition of The Narragansett Electric Company, previously owned by National Grid.

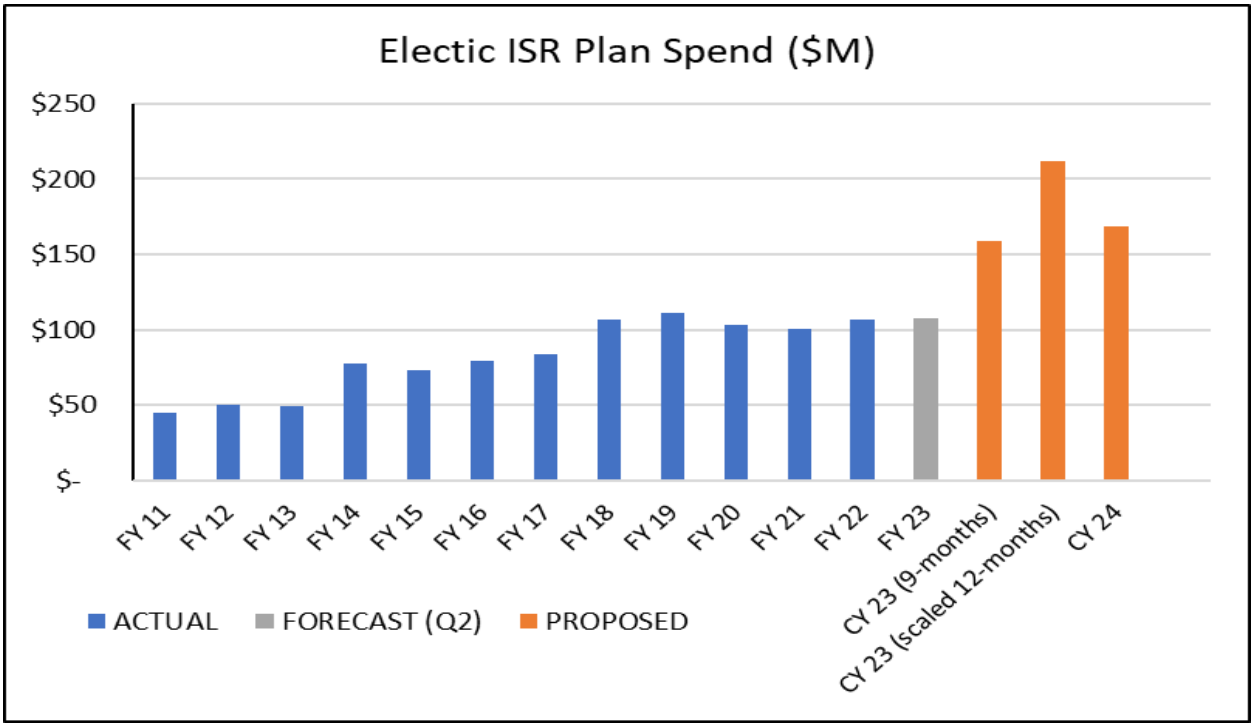
On January 27, 2023, RIE subsequently filed a fiscal year Proposed FY 2024 ISR Plan Supplemental Budget for April 1, 2023 through March 31, 2024 ("Supplemental Budget") in compliance with the Rhode Island Public Utilities Commission ("Commission" or "PUC") ruling[2] in this Docket 22-53-EL. The Supplemental Budget reflects similar spending categories as the 21-Month Plan, but only includes 12 months of spend. The Division has revised its recommended adjustments based on this late filing, which are addressed in Appendix 3 to this report. My report content has not been revised to address the Supplemental Budget due to the timing of the filing and the fact that the ISR Plan and testimony were not revised, only the budget. The analysis and work performed in the evaluation of the October 2022 and December 2022 filings that encompassed a 21-month investment plan serves as a basis for amended recommendations

[1] For the purposes of this report, reference to "Division Consultant", "I" and "my" are interchangeable.
[2] The PUC held an Open Meeting on January 20, 2023 to address, among other items, whether a 21-month ISR Plan is consistent with statutory requirements. The Commission ultimately ruled that RIE must submit an ISR Plan reflecting a fiscal year spending period (April 1, 2023-March 31, 2024). RIE complied on January 27, 2023. The supplemental filing included revised budgets for fiscal year 2024, and RIE did not amend accompanying testimony or the ISR Plan document.

related to RIE's Supplemental Budget. More importantly, it is critical that this full report be included in the record of this proceeding to document the evaluation process, findings, recommendations, and multiple issues identified by the Division that will require further examination and to demonstrate that the Division continues to follow the requirements and intent of the statute.

I have served as the Division Consultant in each ISR Plan going back to FY 2012 and successfully advised and guided the Division in reaching consensus with National Grid for the majority of its proposed annual capital investment projects and programs. The process leading up to consensus in prior years has been extremely collaborative, with National Grid becoming more engaged, proficient and proactive as distribution planning development, evaluation and implementation evolved. PPL, however, brings varying philosophies to distribution planning that RIE expects to integrate in Rhode Island over time. The transitional period will be a learning curve for the utility, stakeholders, the Division, and the Commission. The Division expected that RIE would preserve the fundamental principles of the ISR Plan development that have been formed and strengthened over a decade, of which the core tenants are prudency and reasonableness, while transitioning under PPL ownership. This did not occur, as RIE put forth an aggressive distribution capital investment plan that spans 21-months as opposed to the statutorily required fiscal period (12-months), while proposing to nearly double annual spend relative to historical levels. RIE's filing deviates significantly from Plans going back to FY 2012 with a substantial amount of proposed spend that has not been adequately justified. RIE proposes premature programs and did not provide requisite support necessary for the Division, during its limited review period, to sufficiently validate the need, scope, timing, and investment level of these programs. The Division subsequently proposed several adjustments to work towards consensus. RIE provided no response

to the proposed adjustments. It became apparent throughout the review period that RIE was firm on its proposed ISR Plan 21-month term and investments, and that the difference in positions would not be overcome. RIE opted to file a Plan that is almost identical to its original proposal. The Division does not accept, approve, or otherwise endorse RIE's Proposed 21-month FY 2024 ISR Plan as filed. This marks the first time that the Division and Company have not reached agreement. RIE requested approval of $328 million of capital investments over a 21-month period and the Division recommended a budget of $198 million over the same period, resulting in a gap of $130 million. Specifically, the Division recommended that the Commission consider a CY 2023 9-month ISR Plan and budget of $86 million in this proceeding. Although the Division derived a recommended budget of $112 million for the CY 2024 12-month period, the Division strongly recommended that the CY 2024 ISR Plan not be approved in this proceeding but be separately considered in a 2023 filing that follows the requisite statutory process. Below is a chart comparing the Company's historical Electric ISR Plan Spend to RIE's proposed levels, which demonstrates the excessiveness of RIE's 21-month Plan.



My report details the evaluation process, explains fundamental concerns with RIE's planning philosophies and ISR Plan deficiencies, discusses ISR Plan deviations, provides areas of proposed adjustments , examines the precedent and ratepayer impacts of accepting the proposed capital investment plan, and provides an alternative ISR Plan term and budget for Commission consideration. Overall, my summary evaluation of RIE's Proposed FY 2024 ISR Plan is that the robust and transparent distribution planning process developed and enhanced over the past ten years has not been followed in this year's Plan, resulting in a Plan that in the Division's opinion is excessive, premature and deficient.

Following are major areas of concern, which are further detailed in this report:

- RIE proposed and requested approval for a 21-month capital investment plan as opposed to the statutorily required annual (12-month) Plan filed in prior years. The FY 2024 ISR Plan is comprised of two spending periods, including 9-months over CY 2023 and 12-months over CY 2024. The Division does not agree that RIE's filing complies with statutory requirements and it does not support approval of a 21-month ISR Plan[3].
- RIE includes spend for its Grid Modernization Plan ("GMP"), yet the GMP had not been delivered to the Division or filed with the Commission prior to the Company filing the proposed FY 2024 ISR Plan. The Company effectively requests approval to expend significant funds, totaling twenty-five percent (25%) of ISR spend, through a program that is not adequately justified and which has not progressed through an appropriate regulatory proceeding. The Division strongly opposes including GMP spend in an ISR Plan unless,

[3] The PUC has not accepted a 21-month ISR Plan. Directives issued by the PUC at the January 20, 2023 Open Meeting required RIE to submit a fiscal year (12-month) ISR Plan which satisfies the Division's stated concerns.

and until, the GMP has been filed and approved by the Commission in a regulatory proceeding.

- RIE proposes expenditures for new programs but is deficient in providing customary and necessary justification such as technical analysis and system conditions that require immediate investments, how investments will mitigate or marginally improve system issues, alternatives considered, proposed infrastructure location with accompanying studies, and a benefit-cost analysis. The Division cannot support implementing discretionary programs that are not accompanied by the requisite justification.
- RIE is accelerating implementation and spend for discretionary projects emanating from completed Area Studies in a manner which is inconsistent with the Division's prior recommendations to modulate spend to preserve capital headroom for pending GMP and AMF investments, and to minimize ratepayer impacts. Projects are progressing at an unprecedented pace that is not supported by system needs, risk analysis or criticality rankings. The Division does not support accelerating discretionary major projects unless, and until, the Company can demonstrate imminent need.
- The proposed Plan immediately doubles capital investment relative to historical spend, establishing an unprecedented increase that remains at substantially high levels for the foreseeable future. The Company's average annual ISR Plan spend for the previous ten years was $95 million and is budgeted at $105 million in FY 2023. RIE now proposes spend of $147 million over 9 months in CY 2023 (which is $197 million on an equivalent 12-month basis), and $180 million in CY 2024. These amounts include only a portion of GMP spend and exclude pending AMF investments. This is an untenable spending

trajectory that will further burden ratepayers in a state where the average retail price of electricity is ranked fifth highest[4] in the nation.

II. EVALUATION OVERVIEW

This is the first ISR Plan developed and filed by RIE since PPL's acquisition of Narragansett Electric Company, previously owned by National Grid. There are several areas where RIE's filing deviates significantly from ISR Plans going back to FY 2012. Despite the Company's significant changes to the Plan, the Division's evaluation followed the same process of analysis completed for each ISR Plan filed from FY 2012 through FY 2023, but with additional focus on new and extended areas of spend. This report includes an explanation of the process for the initial FY 2024 ISR Plan proposal evaluations and discussions with the Company, resulting in the Division's recommended reductions of proposed FY 2024 capital spending for both non-discretionary and discretionary projects. Division recommended adjustments and Plan enhancements, whether suggested in consultation with Company representatives or documented otherwise, were not applied to the proposed spending levels initially presented as part of the Narragansett Electric Company d/b/a Rhode Island Energy's September 9, 2022 pre-file documents, and further were not incorporated in either the Company's initial FY 2024 ISR Plan Proposal submitted to the Division on October 21, 2022 or the final ISR Plan Proposal dated December 22, 2022. At the conclusion of this evaluation, the Division does not agree to RIE's 21-Month FY 2024 ISR Plan Proposal.

[4] EIA 2021 Electricity Profile - Rhode Island

The Division's evaluation of the 21-Month Plan forms the basis of this report. On January 27, 2023, the Company subsequently filed a Proposed FY 2024 ISR Plan Supplemental Budget for April 1, 2023 through March 31, 2024 in this Docket 22-53-EL. The Supplemental Budget reflects similar spending categories as the 21-Month Plan, but only includes 12-months of spend. The Company did not revise the associated ISR Plan document or testimony, only the budget. The Division's analysis of the 21-Month Plan and recommended areas of adjustment to the CY 2023 ISR Plan spanning 9-months (April 1, 2023 to December 31, 2023) are predominantly the same areas of adjustment for RIE's January 27, 2023 Supplemental filing. I address the Division's recommended adjustments to the RIE's Supplemental Budget in Appendix-3.

This process, as provided for in Chapter 39-1-27.7.1 of the General Laws entitled "Revenue Decoupling", calls for the Company, prior to the start of each fiscal year, to submit its ISR spending plan and consult with the Division regarding said Plan. The Division is bound by statute to "cooperate in good faith to reach an agreement on a proposed plan." Through the process the Division and the Company failed to reach agreement on select adjustments. In this report, I will discuss the areas of consensus, and more importantly, areas of concern with Company's proposed spending level. The Division's evaluation of the Plan involves an in-depth assessment of all spending categories which includes a detailed review of each project, proposed level of spend, and justification for inclusion in the ISR Plan. The assessment relies on Company provided information that, in many cases, was either not made available or not produced with enough detail to sufficiently validate the need, timing and level of proposed investment. I have taken these data deficiencies into consideration while examining the alignment of both non-discretionary and discretionary budgets with the Company's reliability and safety objectives, and how those objectives are congruent with statutory requirements. The outcome of my evaluation and

recommended adjustments, as in previous years, continues to promote efficiencies that could reduce overall spend without compromising those critical objectives. In addition to individual program and project review with recommended adjustments, I emphasize the need for the Company to develop a comprehensive strategic capital spending plan that accounts for ISR Plan, GMP, and pending AMF implementation, among other programs. The Division's primary and ongoing concern is the continued upward pressure on ratepayer costs due to increasing capital needs to support multiple Company initiatives occurring in parallel.

The Company's initial proposed October 21, 2022 FY 2024 ISR Plan followed the format, but greatly diverged from the principles agreed to in previous Plans. Most of the Company's budget line items were structurally similar to the previous Plans but included increases in the cost structure and added significant spend for grid modernization, although the GMP was in development, unfiled, and not approved by the Commission at the time of evaluation. The Division performed its evaluations by reviewing the Company's pre-file planning information and the proposed ISR Plan, along with a series of presentations and summary information related to the pending GMP. The evaluations have been guided by the preliminary long range plan presentation as well as the numerous presentations of Area Studies provided by National Grid. The pre-file planning information is guided by Division recommendations and the PUC Report and Order from prior ISR proceedings. RIE presented pre-file material on September 9, 2022, which was over one month later than customarily provided. The initial proposed FY 2024 ISR Plan dated October 21, 2022 was also filed later relative to prior years. Although the Division was provided the statutorily required 60-day evaluation period, the Division would have expected the Company to provide additional review time since the proposed plan spanned an additional nine months, included a new GMP program, and contained investment levels that are nearly double the amount expended in

prior years. Regardless, the Division is bound by statute and worked diligently within the allocated time and with the information that the Company provided during the evaluation period. The compression of the review process was then exacerbated by RIE's January 27, 2023 FY 2024 ISR Plan 12-month Supplemental Budget filing as a result of the Commission's ruling.

The materials evaluated include reliability reports, budget variance explanations, vegetation management program cost-benefit analyses, detailed budgets for major projects, completed Area Studies, Quarterly ISR Plan Reports, and other supplemental information. The Company's quarterly updates and conferences for the FY 2023 ISR Plan were also utilized to provide trending analyses and benchmarks for proposed levels of spending, including how major project schedules may have been altered. The data was used to compare the prior fiscal year ISR Plan proposed budgets to forecasted expenditures, as reflected in Appendix-1, along with historical budgets by spending category. It should be emphasized that several programs could not be adequately reviewed or verified given the Company's inability to produce supporting documentation. For material that was provided, an in-depth analysis of the pre-file planning information and each component of the proposed FY 2024 ISR Plan was undertaken. This evaluation and analysis included the following actions and procedures:

1. On September 9, 2022, Rhode Island Energy provided its FY 2024 ISR Proposal Pre-filing Planning Information to the Division. The Company filed a 21-month ISR Plan in order to align with RIE's calendar year financial planning (9 months from April 1, 2023-December 31, 2023 and 12 months from January 1, 2024 to December 31, 2024).

2. On September 23, 2022, the Company held a FY 23 ISR Plan Q1 Report review meeting.

3. On September 30, 2022, a conference call was held between the Division and the Company to discuss the Pre-filing Planning Information and reports provided by RIE in advance of the 2024 ISR Plan filing. The Division suggested topics including an overview of the Plan, discussion of changes to sanctioning process, Areas Study completion and incorporation in the development of Long-Range Plan, line losses, RIE's newly proposed recloser

installations in the FY 2023 plan, and newly proposed spend for the Grid Modernization Plan (GMP).

4. On October 7, 2022, the Company hosted a GMP Model Demonstration for the PST Advisory Group.

5. On October 21, 2022, RIE filed its 21-month Proposed FY 2024 Electric Infrastructure, Safety, and Reliability Plan (9-month period in CY 2023 and 12-month period in CY 2024).

6. On November 1, 2022, a conference call was held between the Division and the Company to discuss major concerns with a 21-month ISR Plan, level of spend, the addition of GMP spend that preceded a filed and approved plan, and challenges with the limited statutory review period.

7. On November 2, 2022, the Company provided the Division and OER with a preview of the GMP presentation for an upcoming PST Advisory group meeting.

8. On November 4, 2022, the Division issued the First Set of Data Requests to the Company.

9. On November 9, 2022, the Company hosted a slide presentation outlining its draft GMP to the PST Advisory Group, including the Division. The full GMP analysis and the plan remained incomplete.

10. On November 10, 2022, the Company held a conference call with the Division to discuss strategic changes to the Vegetation Management Program and impacts to the ISR Plan.

11. On November 17, 2022, the Division issued the Second Set of Data Requests to the Company.

12. On November 18, 2022, a conference call was held between the Division and the Company to discuss anticipated collaboration to reach consensus on the ISR Plan, RIE's system reliability and risk tolerance, the need for protective coordination studies to support reliability investments, gas and electric forecasting, calculation methodologies for system losses, GMP benefits and reliance on AMF, the need for more detailed analysis to support GMP investments that had not and would not be provided prior to the final ISR Plan filing, and concerns with cost allocation for DER integration and management.

13. On November 22, 2022, the Division provided RIE with a list of Protective Coordination discussion topics for a meeting scheduled on December 9, 2022.

14. On November 23, 2022, the Division issued the Third Set of Data Requests to the Company.

15. On November 25, 2022, Rhode Island Energy provided a partial set of responses to the Division's First Set of Data Requests.

16. On November 29, 2022, Rhode Island Energy provided the remaining set of responses to the Division's First Set of Data Requests.

17. On November 30, 2022, a conference call was held between the Division and the Company to discuss the Nasonville outage incident, root cause, and potential impacts of GMP investments in similar situations. The Company's reliability improvement targets and alignment with statutory requirements were discussed, along with rationale for the new recloser program and need for protective coordination studies.

18. RIE and the Division jointly agreed to cancel previously scheduled conferences scheduled on December 5th and December 9th since it was abundantly apparent the differences in positions were too wide to be overcome as accomplished through collaboration in the past.

19. On December 7, 2022, the Division issued the Fourth Set of Data Requests to the Company.

20. On December 8, 2022, Rhode Island Energy provided responses to the Division's Second Set of Data Requests.

21. On December 8, 2022, the Division issued the Fifth Set of Data Requests to the Company.

22. On December 13, 2022, the Company hosted a slide presentation outlining its draft GMP to the PST Advisory Group, including the Division. The full GMP analysis and the plan remained incomplete.

23. On December 14, 2022, Rhode Island Energy provided responses to the Division's Third Set of Data Requests, excluding response to Division 3-6.

24. On December 15, 2022, the Company held a FY 2023 ISR Plan Q2 Report review meeting.

25. On December 15, 2022, a conference call was held between the Division and the Company to discuss planned major projects in the ISR, including sequencing and construction schedules.

26. On December 15, 2022, the Division provided RIE with proposed areas of adjustments and recommended ISR Plan spend.

27. On December 21, 2022, Rhode Island Energy provided responses to Division 3-6.

28. On December 23, 2022, Rhode Island Energy provided the Proposed FY 2024 Electric Infrastructure, Safety, and Reliability Plan for a 21-month period from April 2023-December 2024. The ISR Plan document is dated December 22, 2022.

29. On January 6, 2023, Rhode Island Energy provided responses to the Division's Fourth and Fifth Sets of Data Requests.

30. On January 14, 2023, Rhode Island Energy provided responses to Division 4-7.

31. On January 20, 2023, The PUC held an Open Meeting to review RIE and Division memoranda and rule on the initial question of whether Rhode Island Energy's 21-month ISR Plan filings are consistent with statutory requirements. The Commission ultimately

directed RIE to file a fiscal year (12-month) ISR Plan reflecting a spending period of April 1, 2023 through March 31, 2024.

32. On January 27, 2023, Rhode Island Energy filed its 12-month Proposed FY 2024 ISR Plan Supplemental Budget for April 1, 2023 through March 31, 2024.

33. On January 31, 2023, Rhode Island Energy provided a supplemental response to Division 1-36.

The majority of formal data requests and responses referred to above, excluding those that are considered confidential or critical energy infrastructure information, have been submitted to the Commission by Rhode Island Energy in the Company's filing as Books 2 of 3 and 3 of 3. Only a portion of Area Studies, which were completed in 2021, have accompanying finalized reports made available on the Company's portal.

In their analysis, the Division gave significant consideration to information shared and filings by the Company. Initial review of information raised four major issues: 1) the Company's request for approval of a 21-month plan as opposed to statutorily required annual (12-month) plan, 2) the inclusion of substantial grid modernization spend prior to the Company's completion of the GMP, filing and Commission approval of the plan, 3) accelerated implementation of major projects driving a significant increase in discretionary spend, and 4) proposed program spend that lacked requisite justification. At the culmination of the evaluation period, a significant gap remained between RIE's proposed FY 2024 ISR Plan budget of $328 million and the Division's recommended $198 million budget. Specifically, the Division recommended a CY 2023 ISR Plan budget of $86 million compared to RIE's proposed $147 million. The Division did not endorse approval of the CY 2024 ISR Plan and recommended that RIE file its CY 2024 ISR Plan proposal at a later date to be determined by the Commission. Appendix-2 lists a Summary of the Capital Outlays by key driver category and budget classification as originally proposed by RIE on

October 21, 2022, followed by RIE's final proposal dated December 22, 2022, Division proposed adjustments, and the Division's proposed budget.

III. FUNDAMENTAL CONCERNS

There are fundamental concerns with RIE's planning philosophies and there were ISR Plan deficiencies uncovered during my review of RIE's FY 2024 ISR Plan Proposal (21 Month Filing April 2023 – December 2024). When the PUC ruled on January 20, 2023 that RIE shall only submit a 12-month fiscal year ISR Plan, discussions with the Company and the Division's evaluation of the 21-Month Plan had already concluded. Additionally, the Division and I had already presented our maximum acceptable ISR Plan level to the Company, and the report for presentation to the Commission had already been substantially prepared. Regardless, the fundamental concerns remain with the Company's ISR Plan. These issues influence several categories of spend and drive project proposals that are unreasonable or unjustified. Before providing a detailed review of the Plan in following sections I present these concerns and historical context to provide stakeholders with a more thorough understanding of major issues that shape the Division's recommendations for ISR Plan budget reductions.

A. Reliability

The Division initiated an assessment of Narragansett Electric reliability in September 2001 as a result of numerous complaints by customers in the Providence area (Capital District). An initial report was produced in March 2003. The Final Assessment Report of Narragansett Electric Distribution System Reliability was produced March 31, 2006. A significant collaborative effort transpired between the Division and Narragansett Electric. Narragansett Electric embraced the preliminary report Action Items and implemented many new programs

and cooperative solutions that improved communications, understanding of the system deficiencies and reliability enhancements. Between 2001 and the March 2006 Report, the Company had begun implementing many of the recommendations jointly developed. While the Commission was not using the IEEE 1366-2003 standard for distribution reliability metrics, the parties concurred on moving to this measurement standard while maintaining the Rhode Island one minute standard for defining an outage in lieu of the IEEE standard of five minutes. Narragansett Electric has, from time to time, failed to meet the Commission's reliability standards, resulting in penalties. The implementation of the recommendations and action items from the 2002 and 2003 reports were expected to result in enhanced reliability. By 2004, remote power monitoring, asset management planning, SCADA system implementation and expansion, lightning protection enhancements, system wide sectionalizing focus and maintenance priority systems, and numerous other new programs had advanced Narragansett Electric to the first quartile of the IEEE benchmark statistics, even while accounting for any outage in excess of one minute versus most of the industry and IEEE using a five-minute outage standard. By 2005, 73 percent of the substation breakers were automated.

Reliability metrics and resulting performance remain important in the Company's distribution planning processes and reliability program development. The Company continues to track interruptions using a more stringent one-minute threshold. The underlying data is used to calculate year-end reliability metrics in accordance with the IEEE definition of SAIFI, SAIDI, and CEMI. The system metrics are reported to the PUC and compared to annual targets. In addition, metrics are used for IEEE benchmarking where the Company's performance is

ranked, by quartile, against participating utilities across the United States[5]. Regarding performance, the Company notes that since inception of the ISR Plan in FY 2012, it has consistently met Rhode Island reliability goals[6]. In addition, the Company has primarily achieved IEEE first quartile results, which is top performance, when ranked against peers across the nation. While the Company fell into the second quartile for SAIFI in past years, it has moved back into the top quartile for the most recent year of data. It is important to note that the reliability performance is actually even better than the comparisons, since the Company is using a much more rigorous measure of one minute for outages versus the IEEE five-minute standard. Furthermore, as RIE and PPL choose to compare RIE reliability to the PPL singular metric of SAIFI while ignoring the SAIDI comparison, the RIE statistics are based on a one-minute outage threshold while PPL's statistics are based on a five-minute, less rigorous threshold. Additionally, RIE's reliability has historically proven superior to PPL when comparing SAIDI measurements.[7]

Reliability data on the system and circuit level are key performance indicators when determining the need for strategic reliability programs and measuring the effectiveness of those investments. Utilities must consistently strive to balance efforts to maintain or improve desired reliability with ratepayer costs. To that end, the ISR Plan represents the Company's portfolio of programs designed to maintain and improve reliability. It is always the Division's expectation that proposed programs and levels of spend align with system needs, leverage the most cost-effective solution, and strive for systematic implementation to avoid runaway spend

[5] See Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 1-1, DIV 1-8, and DIV 2-4 for statistics and benchmarking.
[6] Docket 22-53-EL, RIE Proposed FY 2024 ISR Plan; Section 2, page 5.
[7] See Docket D-21-09, DIV 2-60 for PPL statistics.

and unaffordable rates. In my opinion, the Company has historically achieved that balance. While some years of ISR Plan spend were higher to support multi-year capacity and asset condition projects, the Company has been able to modulate spend in other categories to minimize overall costs while maintaining acceptable reliability, and most often superior reliability. Conversely, the FY 2024 ISR Plan is strikingly different. RIE has adopted philosophical changes that are driving immediate and significant increases in proposed ISR Plan spend and seeks to justify those investments by framing reliability results as inferior or unacceptable. This philosophy is woven throughout the ISR Plan and is producing a concerning trend of increasing capital investment based on a questionable characterization of reliability, asset condition, and customer dissatisfaction with reliability.

At the outset, RIE states that its vision for Rhode Island is aligned with PPL's "…mission to provide safe, affordable, reliable, and sustainable energy to its customers"[8] and indicates that "… PPL Electric has performed in the first quartile for System Average Interruption Frequency Index ("SAIFI") every year for the last seven consecutive years."[9] Further, RIE states that investments proposed in the FY 2024 Electric ISR Plan "…will put the Company on a trajectory to becoming a top-tier utility in terms of reliability…"[10] and that the "…Company is focused on SAIFI performance…"[11] among other factors. These statements together imply that RIE's current reliability performance is deficient when it is clear that the Company is achieving IEEE top quartile performance every year for SAIDI and CAIDI, with a mix of SAIFI results between the first and second quartiles. This raises questions regarding

[8] LaBarre Testimony at 3:17-18
[9] *Id*. at 4: footnote 1
[10] *Id*. at 6: 16-17
[11] *Id*. at 8: 13

how reliability is measured, RIE's interpretation of reliability performance, and the Company's new focus on a single metric to justify a significant spending increase.

The first area to be explored is the method in which PPL, RIE, and other utilities track data. As previously highlighted, the Company has measured sustained interruptions on a more granular level than recommended by IEEE and used by PPL (one-minute threshold versus five minutes). The difference in definitions influences the outcome of reliability statistics, for example, having the tendency for the Company to include more interruptions in its calculations than other utilities which would drive less favorable performance. However, the actual impact of a one-minute versus five-minute threshold is unknown at this juncture. I raise this issue since RIE states that it is developing internal criteria aligned with IEEE, SAIDI and SAIFI calculations (five-minute threshold) to be used "…when developing new reliability-based programs, setting internal performance goals, and improving the Company's benchmarking to other utilities[12]." In effect, the Company is proposing significant spend now in reaction to historical reliability results that are interpreted as unfavorable, when the Company's actual performance is likely better than presented. RIE is simultaneously implementing a change in the way it tracks outages[13] which will surely drive "improved" performance but only because the underlying data is calculated more favorably. The Company's approach makes it impossible to distinguish whether an actual project or a calculation change produces reliability improvements. Additionally, RIE has not made this change transparent and has made no

[12] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 2-6
[13] *Id*. DIV 2-4

attempt to obtain concurrence from the Division or what we contend would be approval from the Commission.

RIE has determined that SAIFI results, even at near the bottom of the IEEE first quartile, are not good enough and suggests that PPL is the "gold standard" since PPL has performed in the first quartile of SAIFI for the last seven consecutive years. If benchmarking primary metrics between PPL and RIE, it must be emphasized that SAIFI is the only metric where RIE trends lower. One contributing factor could simply be the differences in how each company tracks sustained outages (discussed above). As an example, if the Company achieves results at the top of the IEEE second quartile using a one-minute interruption threshold, that could translate into the top quartile if measured with a longer five-minute threshold. RIE is also meeting its statutory targets in all categories. The point here is that RIE is focused on a single metric, SAIFI, that while indeed indicates unfavorable trending, is directly or indirectly driving ***nearly $40 million*** of proposed additional investments in a short 21-month period.[14] Although RIE will claim other benefits from those investments, justifying massive spend over a short period of time in order to manage the trending of a single metric is unreasonable. Overall, RIE's reliability already compares favorably to PPL and peer utilities and incremental improvements to manage trending should be explored at more reasonable costs to ratepayers. Furthermore, as will be discussed later, the greater cause for outages is trees and this has been a focus of the Company for a decade. RIE proposes even greater emphasis and new vegetation management enhancements programs which are expected to yield 15 to 18 percent improvement and place RIE SAIFI in the first quartile absent any of the massive new capital

[14] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 1-10

spending proposed in the ISR Plan. RIE most certainly is not being forthright in its claims and justifications for nearly doubling its capital spending.

In addition to Rhode Island reliability metrics, the Company relies on J.D. Power survey results to support increased reliability spend. RIE states that "(b)ased on latest J.D. Power results, overall Customer Satisfaction, which has a direct correlation to reliability, has plunged to fourth quartile."[15] A closer examination indicates that the Company is relying on results from a single Power Quality and Reliability survey released in the third quarter of 2022[16], after the PPL acquisition, as a metric for customer satisfaction. I am not debating that the results of the survey are unfavorable, but RIE must also recognize that the survey occurred during a rare acquisition and transition period for Narragansett Electric. There is no doubt that Company performance would be negatively impacted during that time. Additionally, RIE does not have access to details of the report[17] necessary to determine specific areas of customer dissatisfaction, which would guide its course of action in reversing any perceived trends. I caution that RIE's repeated reference to this single quarterly survey as justification for significant spend is premature, and that the Company would benefit from a better understanding of what is driving customer dissatisfaction to support strategic resolutions. Additionally, it is extremely important for everyone to understand that the Division rarely receives any complaints about reliability. The complaints lodged at the Division are nearly all concerning the cost of power. Thus, the only reasonable conclusion is that customer

[15] Begnal, Rooney, Castro, Constable and Reder Testimony, at 15:18-19
[16] In prior surveys, J.D. Power included Narragansett Electric as part of National Grid and ranked the utility with "Large East" peers. RIE provided unofficial rankings of Narragansett Electric compared to East Midsize utilities where the Company achieved 4th quartile performance in one of four years. (DIV 4-8)
[17] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 3-6

dissatisfaction in the J.D. Power survey is associated with cost and not reliability, and RIE's proposed plan will make the cost significantly worse, which will not benefit future surveys as it has contended absent any proof.

B. Area Studies and Long-Range Planning

For several years, the Company has been working to identify future distribution infrastructure needs by analyzing discrete regions of the system and performing Area Studies. In 2021 the Company completed 10 Area Studies addressing 11 regions. Four reports are posted on the Rhode Island System Data Portal with six reports pending final review before posting. The outcomes of the Area Studies are used to inform long term (10-15 year) investment needs. In 2022 RIE began the process of developing a 10-year Long-Range Plan ("LRP") in order to increase the level of support and transparency for the capital budget. The recommendation to develop a LRP was first introduced in my review of Narragansett Electric Company's FY 2015 Electric ISR, Docket No. 4473 and has been addressed in every ISR Plan proceeding since that time.

The intent of the Long-Range Plan is to provide the Company's capital investment strategy comprised of anticipated spend over a minimum 10-year period. This includes all customary programs the Company implements under the Asset Condition and System Capacity spending rationales, projects emanating from all completed Area Studies (for both substation and distribution facilities), proposed Grid Modernization investments, and any other programs or projects requiring capital additions over the planning period. Programs and projects should be supported with comprehensive analysis driven by baseline system load forecasts designed to adequately stress the system. Major projects should be evaluated against alternatives, including

non-wires, to justify the most cost-effective solution. Asset condition projects should identify risk and criticality factors used to prioritize projects for replacement. The resulting plan should provide stakeholders with a complete view of the Company's proposed system improvements to safely, reliably and cost-effectively meet expected load growth, methodically replace aged infrastructure, improve system resiliency, manage increasing distributed energy resource deployment, and implement statutorily or regulatory required programs.

The Company has now completed all Area Studies, although the pace of completion has not met expectations, and is putting forth GMP and AMF proposals. Key elements for a holistic long-range plan are available and the Division has had several discussions with the Company on potential structure and content, but RIE has yet to put forth an acceptable LRP. It is very important to point out that the initial LRP with the Company prior to the acquisition indicated large capital projects could be eliminated or deferred. We do not know how the new philosophy of PPL will change what is ultimately presented. Instead, RIE interprets long-range planning as two 5-year spending plans. The first plan spans from 2023 to 2027 and was presented in the FY 2024 ISR Plan proposal. It includes customary ISR Plan categories of spend, Area Study projects, and new GMP spend that was not justified or accompanied by a program document. The second 5-year step plan only includes limited budgets for Area Study projects and fundamental GMP investments, excluding other non-discretionary and discretionary categories because of the "…unreliable nature of forecasting spend on projects that are unknown and further out in time[18]." The Company's LRP is essentially their desired list of Area Study project implementations which has no accompanying detail on how a determination is made on project

[18] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 1-7

priority and progression, along with a grouping of new GMP investments that reflect only a portion of future spend.

My initial concern with RIE's approach is that the Company dismisses the ability to develop a comprehensive LRP. It is unreasonable that RIE cannot produce a 10-year investment plan with expanded detail. The Company has been encouraged to identify all capital spend, which should include other initiatives approved through separate regulatory proceedings such as AMF even though the dollars may not flow through the ISR Plan. The LRP should reflect long term strategic investments unlike RIE's presentation of a five-year view for GMP foundational spend which is a fraction of potential investments. Only unless and until RIE produces such documentation will the Commission, the Division, and all stakeholders understand future system needs, the timing and cost of investments, and pending ratepayer impacts.

My next concern with RIE's purported LRP is the Company's attempt to compress discretionary Major Project construction into the first five years of a ten-year period. This is a significant departure from the Company's previous planning efforts where multi-year projects were spread over time to minimize project overlap and overall spend. I have repeatedly emphasized the need to manage increasing and inflationary costs and suggested that the Company "…lengthen complex project implementation schedules or moderate spend in other discretionary programs in order to maintain reasonable overall budgets without compromising necessary reliability programs[19]." When asked to provide justification for the proposed

[19] Docket 5209, FY 2023 ISR Plan, Exhibit GLB-1, Report of Gregory L. Booth, PE, page 55

sequencing of projects and need for significant spending levels in the next five years, the Division received the related responses as follows:

> DIV 1-7: "Mr. Constable explained in a meeting in early 2022 that the Company based project execution schedules on several factors, including need identified within the study, required sequencing of work, resource needs, and availability of funds. At the time of the meeting, prior to the acquisition of the Company by PPL Rhode Island Holdings, LLC, there were several factors, including resource and cash constraints that required the deferral of projects. Rhode Island Energy has a renewed focus and commitment to address the system issues represented by the projects listed above and, after consideration of the contributing factors described above, it has not identified the need to delay work."

Based on Mr. Constable's statements, the Division is concerned that the driving force behind the Company's ISR Plan is not prudent planning and methodically meeting system improvement needs, but is instead corporate cash availability. Just because PPL has the cash available to invest does not mean that projects must be progressed now or that ratepayers should absorb higher rates. Ratepayer impacts and affordability considerations are of paramount importance, particularly given that Rhode Island currently has the fifth highest rates in the nation.

Further, the joint testimony of Nicole Begnal, Christopher Rooney, Kathy Castro, Ryan Constable and Wanda Reder states on page 15:

> The Company has recognized and accepted the results of the long-range area studies completed prior to the change of ownership from National Grid to PPL. The inputs and results of the area studies have not changed since the

> Acquisition. The Company views planning criteria as a "bright line" and will address violations of criteria by advancing study infrastructure development recommendations as expeditiously as possible. This focus along with other factors, such as resource availability, has informed the priority and sequence of projects.

These statements indicate that RIE believes Area Study projects will be accelerated whether or not asset conditions or system needs dictate immediate implementation. I have found no evidence to support RIE's conclusion. When asked about criticality factors or other rankings to better justify project timing, the Company has offered that those efforts are not in place nor necessary, and that RIE's independent judgement is sufficient. The Company's proposed level of spend for discretionary Area Study projects within a 5-year planning horizon is remarkably higher after the PPL acquisition than presented by the Company earlier in the year (see below). The proposed LRP puts the utility on an imprudent path of extraordinary discretionary spend that should be more evenly distributed across the planning horizon and supported with project criticality or similar risk rankings.

	Step 1		Step 2		
Major Projects/ Area Studies	**5-Year Spend**	**% of Total**	**5-Year Spend**	**% of Total**	**Total Spend**
February 2022 LRP	184,300	60%	123,900	40%	308,200
September 2022 LRP	259,240	86%	43,785	14%	303,024

sources: February draft presented by Company to Division during discussions on LRP status
September LRP provided by RIE on pages 12-16 of FY 2024 ISR Plan Pre-filing

Regarding RIE's newly identified resources to support significant project implementation, I have not found evidence of purported resource adequacy through discussions with the Company. Although PPL could possibly supply corporate assistance for planning, engineering or design, to the Division's knowledge the Company is not ramping up actual field resources

that are trained and capable of substation or distribution construction. It takes many years to train electrical workers and if RIE plans to increase staffing in Rhode Island, that plan should be presented and reviewed for prudency. Otherwise, the Company may rely on contractors which is an enormous challenge given the labor shortages and competition for skilled workers, particularly in the northeast. RIE has not adequately proven that resources are available to complete proposed work. I have great concern when the Company states, as it did during discussions, that major project work starting in March 2023 will be accomplished with contractors that have not been consulted with or secured. This sets up two unfavorable outcomes 1) having to pay more for labor than planned due to competition which results in higher project costs than should have been incurred, or 2) not securing the labor, delaying the project, but over-recovering in rates. To be clear, I do not endorse approving an investment plan that requires unreasonable levels of incremental staffing or contracting. The Company should always put forth an investment plan that they can capably deliver at reasonable budget levels. There must always be a balance, and this subject will warrant ongoing scrutiny of RIE's investment strategies and resource needs.

Lastly, I raise the Division's ongoing concern that actual project costs have historically exceeded initial estimates for the Company's Major Projects. For several years the Company has been striving to drive estimation improvements through its complex capital delivery process. RIE has not presented changes to its estimating processes and has confirmed that complex project delivery process has minor differences under PPL ownership, and the changes do not impact distribution planning and project implementation process[20]. At this point there

[20] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 1-35

is no evidence of improvements, which means that the LRP and ISR Plan are understated, particularly for newly introduced projects. I have addressed these issues at length in prior reports and expect that the Company will exercise diligence in updating the LRP and ISR Plans as estimates are refined, and also adjusting project implementation schedules to avoid excessive budgets without compromising necessary reliability programs. RIE offers only its "judgment" as a justification for nearly doubling its spending. The Division points to ten years of successful collaboration that has achieved excellent reliability and safety while maintaining a balance of affordability. RIE has presented no facts, studies or justifications to make any change.

IV. CAPITAL INVESTMENT PLAN

A. Overview

I have evaluated the $327.8 million FY 2024 Capital Spending Plan proposed by RIE, along with its supporting testimony and exhibits as contained in its filing dated December 22, 2022. I first reviewed the September 9, 2022 pre-file ISR budget proposal submitted to the Division in the amount of $315.4 million, and the initial October 21, 2022 proposed ISR Plan submitted to the Division in the amount of $323.7 million. This is the first ISR Plan submitted since the Company was acquired by PPL Corporation. The proposed ISR Plan reflects a 21-month period of spend, identified as CY 2023 for 9-months and CY 2024 for 12-months. RIE proposes and requests approval of a "21-Month Plan" to gain alignment with PPL's financial schedule, which runs from January 1 through December 31. Over a period of approximately eight (8) weeks[21], each component of the extended 21-Month Plan was evaluated despite RIE's

[21] The Company has customarily afforded the Division with 11 weeks to review a 12-month ISR Plan. Although RIE's delayed filings provided the statutorily required 60-day evaluation period, the Division would have

non-conformance with the Rhode Island statute requiring development of an ISR Plan for a prospective fiscal year (R.I. Gen. Laws § 39-1-27.7.1, An Act Relating to Public Utilities and Carriers – Revenue Decoupling). Although fundamentally disagreeing with a 21-month plan, the Division performed its customary and detailed evaluation of both the 9-month and 12-month ISR Plans. There was an iterative process in which modifications and increases to the Company's initial proposed Capital Spending Plan were discussed. A substantial amount of effort and time was devoted to evaluating RIE's proposed spend on new programs including grid modernization, but with far less data and information put forth by the Company than previously provided in ISR Plan evaluations. The Division ultimately identified areas of spend that were unreasonable, unjustified or premature, and recommended adjustments to several spending categories for both CY 2023 and CY 2024. The Division's recommended budget reductions, totaling $130 million, were rejected by RIE and the Company filed a final proposed 21-Month ISR Plan that was nearly identical to its original proposal. The Company's final proposed plan does not alter my position on the need for adjustments and, for the purposes of this report, the Division's proposed reductions will be indicated relative to the Final FY 2024 ISR Plan Proposal for both CY 2023 and CY 2024. The following tables provide a comparison of the Company's October 21, 2022 initial proposal, the Company's December 22, 2022 final proposal, the Division's recommended adjustments, and the Division's recommended budget. The Company's proposed budget is shown in Chart 12 of the FY 2024 ISR Plan filing dated December 22, 2022 in Docket No. 22-53-EL.

expected a more generous evaluation period given that the proposed plan spanned an extra 9 months and included a new grid modernization program comprising 25% of total spend.

Proposed CY 2023 and CY 2024 ISR Capital Outlays by Key Driver Category: Comparison of RIE and Division Proposals

RIE CY 2023 ISR PLAN 9-MONTH PROPOSED BUDGET by Spending Rationale ($000)	CY 23 RIE Initial Proposal (10-21-22)	CY 23 RIE Final Proposal (12-22-22)	CY 23 Division Proposed Adjustments	CY 23 Divison Proposed Budget
Customer Request/Public Requirement	$20,683	$20,683	$0	$20,683
Damage Failure	$11,651	$11,651	$0	$11,651
Grid Modernization Plan	$34,522	$33,877	($33,877)	$0
Subtotal Non-Discretionary Total	***$66,856***	***$66,211***	***($33,877)***	***$32,334***
Asset Condition	$59,962	$53,193	($18,000)	$35,193
Non-Infrastructure	$1,375	$1,375	$0	$1,375
System Capacity & Performance	$24,765	$26,586	($9,504)	$17,082
Subtotal Discretionary	***$86,102***	***$81,154***	***($27,504)***	***$53,650***
Grand Total	**$152,958**	**$147,365**	**($61,381)**	**$85,984**

RIE CY 2024 ISR PLAN 12-MONTH PROPOSED BUDGET by Spending Rationale ($000)	CY 24 RIE Initial Proposal (10-21-22)	CY 24 RIE Final Proposal (12-22-22)	CY 24 Division Proposed Adjustments	CY 24 Divison Proposed Budget
Customer Request/Public Requirement	$28,357	$28,357	$0	$28,357
Damage Failure	$15,878	$15,878	$0	$15,878
Grid Modernization Plan	$48,586	$47,983	($47,983)	$0
Subtotal Non-Discretionary Total	***$92,821***	***$92,218***	***($47,983)***	***$44,235***
Asset Condition	$56,152	$61,800	($15,000)	$46,800
Non-Infrastructure	$1,289	$1,289	$0	$1,289
System Capacity & Performance	$20,455	$25,098	($5,000)	$20,098
Subtotal Discretionary	***$77,896***	***$88,187***	***($20,000)***	***$68,187***
Grand Total	**$170,717**	**$180,405**	**($67,983)**	**$112,422**

It is important to illustrate that the CY 2023 budget is only a 9-month period as opposed to a customary 12-month period. If RIE's proposed CY 2023 budget were scaled to a 12-month period, the Company would potentially expend $197 million annually as opposed to a $105 million budget in FY 23, almost doubling its capital investment. The Division recognizes this distinction throughout its analysis. Below is a comparison of RIE's CY 2023 ISR Plan Proposal, scaled to 12 months, and the Division's recommended budget in this Docket 22-53-EL. The Division does not recommend approval of RIE's CY 2024 ISR Plan Proposal in this proceeding.

RIE CY 2023 ISR PLAN ($000) [Scaled to 12-months]	CY 23 RIE Initial Proposal (10-21-22)	CY 23 RIE Final Proposal (12-22-22)	CY 23 Divison Proposed Budget	FY 2023 RIE BUDGET	FY 2023 RIE FORECAST
Grand Total	$203,944	$196,487	$114,645	$104,749	$107,606

The full 21-Month ISR Plan as shown below indicates that the Company's FY 2024 total proposed spend stands at $327.8 million. This compares to the Division's recommended budget of $198.4 million for the same period.

RIE Proposed 21-Month Capital Spending ($000)

RIE FY 2024 ISR PLAN 21-MONTH PROPOSED BUDGET by Spending Rationale ($000)	FY 24 RIE Initial Proposal (10-21-22)	FY 24 RIE Final Proposal (12-22-22)	FY 24 Division Proposed Adjustments	FY 24 Divison Proposed Budget
Customer Request/Public Requirement	$49,040	$49,040	$0	$49,040
Damage Failure	$27,528	$27,529	$0	$27,529
Grid Modernization Plan	$83,108	$81,860	($81,860)	$0
Subtotal Non-Discretionary Total	***$159,676***	***$158,429***	***($81,860)***	***$76,569***
Asset Condition	$116,114	$114,993	($33,000)	$81,993
Non-Infrastructure	$2,664	$2,664	$0	$2,664
System Capacity & Performance	$45,219	$51,684	($14,504)	$37,180
Subtotal Discretionary	***$163,998***	***$169,341***	***($47,504)***	***$121,837***
Grand Total	$323,674	$327,770	($129,364)	$198,406

Within a 21-month period, the Company projects the need for non-discretionary expenditures of $49 million in Customer Request/Public Requirements spending and $27.5 million in Damage/Failure spending. Except for known major projects, the majority of projects in the Customer Request/Public Requirements category are not precisely defined but are based on the Company's best forecast since specific customer requests have not been made. The Damage/Failure category covers costs to replace equipment that unexpectedly fails or becomes damaged. Historical spending levels tend to serve as the primary method to develop a budget. Additionally, economic conditions are a factor considered in adjusting historical costs. There are both upward and downward trends in new construction activity, combined with the effects

of inflation on the cost of raw materials, transportation, and labor. For FY 2024, the Company is expected to experience continued supply chain problems and upward pressure on field labor costs due to regional staffing limitations and increases in competitive bids.

For FY 2024, the Company also includes a new category of non-discretionary spend for grid modernization. These expenditures are driven by RIE's Grid Modernization Plan which at the time of the Division's ISR Plan evaluation had not been completed or filed with the Commission. The Company previously implemented several smaller projects, categorized as Strategic DER Advancement, as a precursor to a comprehensive GMP. The Division has been aware of this forthcoming plan, and in my FY 2023 ISR Plan evaluation I noted that future GMP investments would be determined once the GMP plan progresses through customary regulatory proceedings[22]. Contrary to that expectation, RIE has included $82 million of new grid modernization investments in the FY 2024 ISR Plan in advance of filing its GMP on December 30, 2022. The proposed spend for "foundational" GMP elements over 21-months is only a portion of the Company's proposed $270 million GMP spend over five years, with future levels of GMP unidentified at this time. The Division and Company have divergent views on the categorization and incorporation of this proposed spending in the current plan which I address within this report.

Spending in the Damage/Failure category, budgeted at $27.5 million over 21-months, appears to achieve a more moderate level after several years of an upward trajectory. The

[22] National Grid's GMP filing in Docket 5114 and AMF filing in Docket 5113 have been stayed (Order No. 24089 dated July 14, 2021) pending further consideration following the issuance of a final Order in Docket No. D-21-09 - PPL Corp. petition to transfer ownership of The Narragansett Electric Company to PPL Rhode Island Holdings, LLC.

Company has implemented revised standards that guide proper classification of work between discretionary and non-discretionary spending rationales. It is expected that the Company will continue to refine and improve those internal processes to manage the Damage/Failure category and appropriately justify actual expenditures due to unplanned equipment failures.

For the FY 2024 ISR Plan, the Company proposes to spend a total of $158.4 million for all non-discretionary projects as compared to the Division's recommended budget of $76.6 million. Consensus on proposed spend was not reached between the Division and the Company, leaving an $82 million gap of unapproved spend. The Company's proposed non-discretionary spend represents forty-eight (48%) of the proposed capital budget, which is higher than previous ISR Plans due to the significant grid modernization budget. In Sections B and C, I discuss the Customer Request/Public Requirement, Damage/Failure, and Grid Modernization Plan categories in more detail.

The remaining three major categories of spending rationale for the FY 2024 budget are Asset Condition, Non-Infrastructure, and System Capacity and Performance. These categories, which are discretionary in the sense they are based on engineering, safety, reliability and economic analyses, are budgeted at $169.3 million for the remaining fifty-two percent (52%) of the proposed 21-month capital budget. Previous major multi-year projects are essentially complete while projects from several Area Studies are in various stages of development or construction. RIE plans to accelerate implementation of discretionary work and has introduced additional projects from most of the Company's 11 completed Area Studies. The sequence and schedule of major projects should be aligned with RIE's Long-Range Plan, which has not been developed to the Division's satisfaction. The Company is managing major capital projects

separately from other discretionary projects in accordance with recommendations in the FY 2017 ISR Plan proceeding. I discuss major projects and Long-Range Planning later in this report.

For the three discretionary categories (Asset Condition, Non-Infrastructure, and System Capacity and Performance), the initial proposed 21-month budget was $164 million which RIE increased to $169.3 million in the final FY 2024 ISR Plan Proposal filing. This compares to the Division's recommended budget of $121.8 million. Consensus on proposed spend was not reached between the Division and the Company, leaving $47.5 million of unapproved spend. The Company's proposed discretionary spend represents fifty-two (52%) of the proposed capital budget. In Sections D, E, and F, I will discuss each of these categories separately, explaining the Division's position and recommended adjustments.

Although this report addresses both spending periods, the Division only endorses approval of the CY 2023 Plan within this proceeding. The Division further recommends that RIE file its CY 2024 ISR Plan proposal at a later date to be determined by the Commission. Lastly, the Division does not support any GMP spend until the plan has been filed and approved by the Commission in a docketed proceeding.

B. Customer Request/Public Requirements Category

RIE's proposed FY 2024 ISR Plan includes $21 million ($28 million scaled to 12-months) and $28 million of Customer Request/Public Requirements for CY 23 and CY 24, respectively. This compares to a FY 2023 ISR Plan budget and forecast of $27 million and $30 million, respectively. The Division did not recommend adjustments to this category and supports

approval of the CY 2023 Plan proposal within this proceeding, but does not recommend approval of the CY 2024 Plan proposal.

FY 24 ISR Plan ($000) Customer Request/ Public Requirement	FY 23 RIE Budget	CY 23 RIE Proposed Budget	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 24 RIE Proposed Budget
Customer Request/ Public Reqmt.	$27,183	$20,683	$27,577	$28,357

The Company projects $2.4 million overspend in FY 2023. Contributing factors include higher new commercial project costs than budgeted, spend for Third-Party Attachment projects where cash advances were collected in FY 2022, and Distributed Generation ("DG") activity. The net spending for DG is variable and impacted by construction schedules, the amount and timing of Company invoicing, customer payments, and actual project costs. The Company states in its FY 2022 Q2 report that it has undertaken a review of DG Projects and will report the results to the Commission by March 31, 2023. The Division will be relying on the report results and any related Commission actions in anticipation of future ISR Plan impacts.

Material costs and availability have impacted non-discretionary system needs in recent years. In response the Company has attempted to identify risks and adjust budget components accordingly. During FY 23 ISR Plan quarterly reviews RIE did not raise examples of material unavailability or delays that are currently impacting this spending category. The Company appears to be prudently managing supply chain uncertainties. However, the Company does cite supply chain risk as rationale to support increasing and accelerated spend in other areas, such as the purported need for over $300 million in GMP foundational investments that start

immediately[23]. I address GMP spend in Section V. but raise this issue here since RIE's fundamental views on risk impact all ISR Plan spend, including the Customer Request/Public Requirements category. If the Company is inclined to increase or accelerate investments to offset risk, whether perceived or real, those decisions warrant a closer examination which may not always occur for non-discretionary spend that is deemed "necessary" or "customer-driven." The Division consistently encourages diligence and prudency in non-discretionary spend, and will continue to assess how the Company manages emerging risks to ensure that overly aggressive measures are not implemented unless warranted.

C. Damage/Failure Category

RIE's proposed FY 2024 ISR Plan includes CY 23 spend of $12 million ($16 million when scaled to 12-months) and CY 24 spend of $16 million for the Damage/Failure category. This compares to a FY 2023 ISR Plan budget and forecast of $14 million and $16 million, respectively. The Division did not recommend adjustments to this category and supports approval of the CY 2023 Plan proposal within this proceeding, but does not recommend approval of the CY 2024 Plan proposal.

FY 24 ISR Plan ($000) Damage/Failure	FY 23 RIE Budget	CY 23 RIE Proposed Budget	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 24 RIE Proposed Budget
Damage/Failure	$14,251	$11,651	$15,535	$15,878

The Company continues to incur expenses over budget in this category with an overall FY 2023 variance projected at $2 million, primarily due to storms and weather-related events, and

[23] Begnal, Rooney, Castro, Constable and Reder testimony, page 29, footnote 6 states in part: "Many factors support the conclusion that the Foundational Investments are urgent, including (vii) a compromised supply chain, resulting in imminent delays for material availability." The FY 2024 ISR Plan identifies $270 million of GMP spend from CY23 to CY27.

a metal-clad switchgear failure at Nasonville Substation. The Nasonville incident was triggered by a series of line faults that produced arcing and extensive damage to the switchgear, causing a substation fire and extensive outages. The switchgear is scheduled to be replaced with an open-air circuit breaker design at an estimated $3 million budget in Damage/Failure, predominantly occurring in the CY 23 and CY 24 ISR Plans. An additional $8 million of Nasonville funding is included in the System Capacity category through CY 2027 to advance station improvements identified in a related Area Study. I address the Nasonville incident and substation improvements in the System Capacity section.

Elements of Damage Failure which are unrelated to major storms or clear equipment failures are also budgeted based on historical work. These projects and their associated costs have been steadily increasing and contributing to overspend in the Damage Failure category. This trend has been recognized for several years and the Company has been implementing a new practice of categorizing work meant to create more clarity around how to charge work in the field for damaged assets. The objective is to ensure that only projects required as a result of damaged or failed equipment are assigned to this category, while the remaining are captured under discretionary spend. The process is now indicating signs of effectiveness and I am satisfied that the Company is closely monitoring work to validate classifications and further enhancements are not recommended at this time. The Division supports the Company's CY 2023 proposal for an $11.7 million budget in the Damage/Failure category comprised of $9.2 million for asset replacements, $1.4 million for major storms, and $1.1 million for the Nasonville Substation rebuild.

This brings the total non-discretionary categories of Customer Request/Public Requirements and Damage/Failure to $32.3 million for CY 2023, which the Division supports.

The Division does not recommend approval of the CY 2024 Plan proposal. I address GMP non-discretionary spend separately in Section V.

D. Asset Condition Category

The Asset Condition category represents a combination of strategies and programs targeting equipment replacement to maintain reliability performance. Spending is further divided into Asset Replacement and Inspection and Maintenance components, which are generally a combination of multi-year major substation upgrade projects and programs designed to replace groups of equipment throughout the system. Projects and programs in the Asset Replacement category have become increasingly significant in scope and budget. The Company continues to track major projects separately, which provides transparency and enables the Division to monitor budget estimates, scope, and actual construction spend from inception to completion. It also mitigates the Company's tendency to shift budgets between discretionary projects in order to meet an overall target, rather than managing independent projects based on need.

For the FY 2024 ISR Plan, RIE includes spend related to seven Major Projects in CY 2023 and CY 2024 that are in various stages ranging from development to close-out. Concurrently, RIE is progressing six other Area Study Projects over the same timeframe, some of which will eventually be tracked as Major Projects. Remaining projects capture costs to replace infrastructure under recurring programs or the I&M program. Overall, the Division assessed Major Projects/Area Studies as a group and considered spend for Recurring Projects separately. RIE proposes $34 million for Major Projects/Area Studies in CY 2023 ($45 million when scaled to 12-months) and $41 million in CY 2024. The FY 2023 budget and forecast for this

same category are roughly $23 million. In addition, $20 million is proposed in CY 2023 for recurring projects ($26 million when scaled to 12-months) and $21 million in CY 2024. This compares to FY 23 budget and forecast of $25 million and $21 million respectively.

The Division initially recommended $33 million in adjustments to Major Project/Area Studies spend and a minor adjustment related to other projects totaling $23 million in reductions for CY 23 and $10 million for CY 24. The Company rejected the recommendations and consensus was not reached. Although the Company's final FY 24 ISR Plan proposal included revised budgets, proposed spend remains at unacceptable levels. The Division has not changed its position on the need for $33 million in adjustments and presently recommends an $18 million reduction to the CY 23 budget and a $15 million reduction to the CY 24 budget based on RIE's final FY 2024 ISR Plan Proposal. The Division's recommended budgets brings RIE's proposal in line with historical spend and allows the Company to progress significant levels of discretionary work. The Division supports approval of $18.6 million for CY 2023 Major Projects/Area Studies and $16.6 million for Recurring projects, for a total of $35.2 million in the Asset Condition Category. The Division does not recommend approval of the CY 2024 Plan proposal. A summary of RIE's proposed 21-month spend, Division adjustments and recommended budget, and a comparison of proposed plans to actual FY 2023 data are below with detailed evaluation in the following sections.

FY 24 ISR Plan ($000) 21-Months Asset Condition		RIE Final Proposal (12-22-22)	Division Adjustments	Division Proposed Budget
CY 23	Major Projects & Area Studies	$33,598	(15,000)	$18,598
	Recurring Projects/I&M	$19,595	(3,000)	$16,595
	CY 23 Total	***$53,193***	***(18,000)***	***$35,193***
CY 24	Major Projects & Area Studies	$41,190	(15,000)	$26,190
	Recurring Projects/I&M	$20,610	0	$20,610
	CY 24 Total	***$61,800***	***(15,000)***	***$46,800***
	FY 24 Total-21 months	**$114,993**	**(33,000)**	**$81,993**

ISR Plan Comparison ($000) Asset Condition	FY 23 RIE Budget	FY 23 RIE Forecast	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 23 Division Proposed Budget [scaled to 12-mos]
Major Projects & Area Studies	$23,310	$23,571	$44,797	$24,797
Recurring Projects/I&M	$24,979	$21,081	$26,127	$22,127
CY 23 Total	**$48,289**	**$44,651**	**$70,924**	**$46,924**

1. Major Projects & Area Studies

Asset Condition spend has steadily increased due to aging equipment throughout the service territory and the need for significant upgrades in highly loaded corridors. Major multi-year investments are included in the ISR Plan and as legacy projects are completed, new projects are naturally phased in and aligned with previously performed Area Studies[24]. The Company is proposing continued work on multi-year major projects driven by asset condition and is also initiating multiple new projects within the 21-Month Plan that are

[24] Portfolios of projects associated with Area Studies are categorized in either the Asset Replacement budget category or System Capacity budget category, and both of these categories drive significant levels of proposed discretionary spend.

contributing to significant budget increases. Proposed Major Projects and new Area Study Work are as follows:

FY 24 ISR Plan ($000) Asset Condition Major Projects/ Area Studies	FY 23 RIE Budget	CY23 RIE Proposed Budget	CY23 RIE Proposed Budget [scaled to 12-mos]	CY24 RIE Proposed Budget
Apponaug Substation	$0	$763	$1,017	$1,428
Centredale Substation	$0	$1,116	$1,488	$1,750
Dyer St substation	$3,500	$0	$0	$0
Phillipsdale Substation	$0	$2,390	$3,187	$2,951
ProvStudy Phase 1A	$1,484	$0	$0	$0
ProvStudy Phase 1B	$16,585	$13,580	$18,107	$13,622
ProvStudy Phase 2	$300	$1,674	$2,232	$4,524
ProvStudy Phase 3	$0	$0	$0	$0
ProvStudy Phase 4	$1,217	$9,605	$12,807	$6,544
Southeast substation	$223	$66	$88	$0
Tiverton Substation	$0	$85	$113	$341
Sub-Total Major Projects	***$23,310***	***$29,279***	***$39,039***	***$31,160***
Other Area Study Projects	$0	$4,319	$5,759	$9,857
Total	**$23,310**	**$33,598**	**$44,797**	**$41,017**

I have reviewed the justification for each project either through previous ISR Plan evaluations or Area Studies and continue to support inclusion in the Company's capital investment plan, but I do not endorse RIE's FY 2024 portfolio as proposed. The Company forecasts $34 million in CY 2023 over 9-months or over $44 million when scaled to 12-months. Spending levels remain significant at $41 million in CY 2024. For perspective, the Company budget averaged $21 million for Asset Condition Major Projects over the past four years. If approved, RIE would be on track to immediately double expenditures. As discussed earlier, these Asset Condition projects should be reflected in the Company's Long-Range Plan, which guides the orderly expansion of the electric utility system. As projects are introduced in the ISR Plan for implementation in the current or next four years, stakeholders are able to validate alignment with the LRP. My evaluation of RIE's LRP raised many concerns centered on RIE's efforts to complete Area Study projects, both

condition and capacity related, as expeditiously as possible with no regard for budget impacts. RIE has not produced an acceptable LRP that relies on project criticality, risk assessments, or any other ranking mechanism to validate project sequencing, thus the ensuing ISR Plan Major Projects portfolio is equally deficient. The Division strongly opposes the level of spend for Major Projects in the proposed FY 2024 ISR Plan. Overall, the Division recommends $30 million in adjustments consisting of $15 million in reductions in CY 2023 and $15 million in CY 2024 for Asset Condition Major Projects/Area Studies. The Division's focus for this 21-Month Plan is overall spend at the portfolio level and the Asset Condition Major Projects is an area where the Company has the most discretion and opportunity for cost containment. Specific project adjustments are not provided but potential areas are examined in my discussion below. RIE did not accept the Division's recommended adjustments[25] brought forth during the evaluation period which the Division continues to endorse.

The Division's adjustments are based on the need to reduce overall discretionary spend and also informed by exploring the status of specific projects. For instance, the CY 2023 Plan includes Providence Area[26] related projects totaling $25 million over 9-months, or $33 million over a 12-month period. These are significant budgets considering that the work is primarily distribution line related driven by labor costs and not major equipment purchases. Upon the Division's request, the Company provided details for various phases

[25] The Division originally recommended total adjustments of $30 million ($20 million in CY 2023 and $10 million in CY 2024) but has revised those amounts to $15 million between each spending period in response to RIE's final FY 2024 ISR Plan proposal modifications.

[26] I have analyzed and commented on Providence Area projects in previous ISR Plan reviews. The work involves newly constructed, rebuilt and retired substations, in addition to substantial overhead and underground circuit work. As a historical note, I had prepared an asset condition report for the Division as far back as early 2000. This is when it was very apparent that the Providence area and its extremely old distribution plant would need major upgrades over decades.

of Providence projects, the bulk of which involve civil work with manholes and duct bank installations. Current construction has been delayed, the proposed future construction schedule has not been settled, and RIE may need to double the workforce to stay on schedule. As previously discussed, RIE has not adequately proven that that resources are available to complete proposed work, especially in a labor constrained market. There were many uncertainties relied upon to establish an inflated FY 2024 Providence spending plan, and the Division believes that this is an area where reductions could easily be applied.

In addition to significant construction activities for ongoing Providence projects, RIE proposes to initiate Apponaug (Central RI East), Centredale (Northwest RI), and Phillipsdale (East Bay) Major Projects. The Company will concurrently begin spending on projects related to seven other Area Studies in order to achieve "expeditious" completion. There are projects from 11 independent regions that will ultimately be included in the ISR Plan, yet the Company has only subjectively answered the question as to why a significant number of projects must commence now. I am not disputing that the Company, through Areas Studies, has appropriately evaluated system assets and evaluated cost effective solutions for deteriorated equipment. However, I am troubled that RIE has not shown prudence in determining a sequence of implementation with regard to overall spend. The Division suggests that that all Area Study projects in addition to Providence Area are candidates for adjustment.

In summary, the Division recommends a $15 million reduction to the CY 2023 ISR Plan budget for Major Projects/Area Studies Projects for a proposed 9-month budget of $18.6 million. The Division defers to the Company to determine specific project

reductions. Although the Division put forth a $15 million reduction in CY 2024 spend, approval of the CY 2024 ISR Plan is not recommended in this proceeding. More importantly, RIE should develop and deliver an acceptable Long-Range Plan before future ISR Plans are submitted.

2. Asset Replacement-Recurring Programs

The Asset Replacement category contains recurring programs that have been included and reviewed in prior ISR Plan filings. Proposed budgets in this discretionary category are generally based on equipment age, condition, criticality rankings, and the Company's planned level of work. The Company proposes $17 million of spend in CY 2023 and $23 million in CY 2024 for customarily recurring programs to replace infrastructure such as substation batteries, substation breakers and reclosers, Underground Cable and Underground Residential Distribution ("URD"), and miscellaneous blanket projects.

My evaluation of the proposed spend for various programs first determines if work is aligned with an Area Study. This ensures that equipment replacement considers broader area needs, is sufficiently sized for load growth, and includes compatible technology for future grid modernization. Next, I evaluate projects in terms of level of spend and criticality. Unless there is an emerging need, the Company relies on historical work completed and associated spend as a metric for current budgets. As each year progresses, the Company methodically replaces the most critical assets, which is practical given that system reliability has not been sacrificed under this strategy.

To evaluate the need for projects within this category, the Company customarily provides studies, condition assessments, criticality rankings, or other planning documents containing updated support information. For FY 2024, discussions focused on the Company's rationale to increase CY 2023 spend on URD and Underground Cable Replacement Programs to $12 million over 9-months, or the equivalent of over $15 million over 12-months. By comparison, both the budget and forecasted spend for the same programs are approximately $11 million in FY 2023. The Company's CY 2024 proposed spend is $12 million. RIE has produced an aggressive CY 2023 budget for underground cable replacement with no rationale for the increase or evidence that labor resources can be secured to complete a year's worth of work over 9-months. The Division recommended a $3 million reduction for CY 2023, which the Company did not accept. The proposed budget for remaining programs, including the Blanket category for projects identified and remedied by field personnel which is routine and acceptable work, were found acceptable. The Division continues to endorse a $3 million reduction to RIE's CY 2023 ISR Plan Proposal. No adjustments are recommended for the CY 2024 ISR Plan underground cable replacement programs, although the Division does not recommend approval of the Plan in this proceeding.

3. Inspection & Maintenance Program and Other Operations & Maintenance

The Inspection & Maintenance ("I&M") Program is designed to provide the Company with comprehensive system-wide information on the condition of overhead and underground components. The program includes a capital component for strategic replacement of deteriorated assets identified during inspections, operational expenses related to asset replacement, and costs to inspect the system. The Company also incurs

Operations & Maintenance ("O&M") expenses related to a Volt-VAR Optimization and Conservation Voltage Reduction ("VVO/CVR") expansion program, continuation of mobile elevated voltage testing, and Long-Range planning study costs. RIE proposes $2.3 million and $3 million for I&M capital in CY 2023 and CY 2024, respectively. The categories and levels of proposed O&M funding, indicated below, are consistent with prior ISR Plans with the exception of additional spend for Grid Modernization. The Division and Company did not have detailed discussions regarding I&M and O&M during the evaluation period but, given the Division's position on GMP (see Section V), it is recommended that RIE remove $3.2 million of Grid Modernization O&M in both spending periods. The Division supports the CY 2023 ISR Plan and budget as shown below, but does not endorse approval of a CY 2024 ISR Plan in this proceeding.

FY 24 ISR Plan ($000) 21-Months I&M and O&M		RIE Final Proposal (12-22-22)	Division Adjustments	Division Proposed Budget
CY23	Capital Costs (included in capital budget)	$2,256	0	$2,256
	Opex Related to Capex	$436	0	$436
	Inspections and Repair Related Costs	$338	0	$338
	System Planning & Protection Study	$25	0	$25
	Removal Costs	$256	0	$256
	VVO/CVR Program	$303	0	$303
	Grid Modernization	$1,506	($1,506)	$0
	CY 23 Total O&M	***$2,864***	***($1,506)***	***$1,358***
CY24	Capital Costs (included in capital budget)	$2,961	0	$2,961
	Opex Related to Capex	$405	0	$405
	Inspections and Repair Related Costs	$450	0	$450
	System Planning & Protection Study	$25	0	$25
	Removal Costs	$225	0	$225
	VVO/CVR Program	$439	0	$439
	Grid Modernization	$1,687	($1,687)	$0
	CY 24 Total O&M	***$3,231***	***($1,687)***	***$1,544***
	FY 24 Total O&M-21-months	**$6,095**	**($3,193)**	**$2,902**

The I&M Program funds a five-year inspection cycle with a goal to replace assets over ten years. The Company plans to continue this cycle and has not analyzed benefits of moving to a longer or 10-year inspection cycle[27] as I have suggested in previous ISR Plan reviews. The Company is not meeting the ten-year replacement goal due to the backlog of identified work, but has streamlined the program to prioritize critical repairs when identified and working the backlog within an annual budget. I have evaluated the I&M program in detail and maintain that it is mature and successful implementation has produced excellent reliability results at the current pace of asset replacement.

I note that the Company is successfully managing minor asset replacements under this I&M repair program, Damage/Failure, and the discretionary Asset Replacement program. The suite of programs has the same objective, which is small scale, proactive infrastructure replacement to maintain safety and reliability. RIE has given no indication that the I&M program or related initiatives will be revised, although new or modified programs may be introduced as the PPL transition continues and best practices are shared between companies. If that occurs, the Division will expect customary support and program detail at levels to sufficiently evaluate ISR Plan impacts well in advance of implementation.

For the O&M component of the I&M program, the Division reiterates its previous recommendation to consider increasing the inspection cycle to ten years since the same system deficiencies were likely being repeatedly documented. The Company previously petitioned to maintain the current five-year cycle since it is aligned with contact voltage

[27] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 1-5

testing, consistent with its Massachusetts and New York requirements, and an effective method to proactively address deteriorated equipment before failure. The Company should reevaluate its position since it is no longer affiliated with Massachusetts or New York. Although the Division agrees with the I&M budget, I continue to recommend a ten-year inspection cycle as proposed in past plans.

Lastly, the Company proposes funding for Volt/Var ("VVO/CVR") to maintain existing systems. Going forward, the ISR Plan includes only O&M attributable to installed VVO/CVR. Plans to end VVO/CVR investments within the ISR Plan have been in place for some time as the Company expected to incorporate future work within the proposed GMP. As discussed in this report, the Division does not support GMP spend in this filing which effectively halts expanded VVO/CVR installations. I have opined in previous Plan reviews that this initiative is an example of technology deployment which brings necessary grid enhancements and an ongoing net benefit to the consumer. The pilot on Volt/Var Optimization has produced positive net benefits, but a delay in GMP proceedings has adversely impacted the Company's efforts to expand this valuable program. While the Company could consider adding VVO/CVR on additional feeders in the interim, a more cost-effective strategy would be designing a system-wide program that leverages feeder monitors and distribution automation as the Company previously identified in its GMP. RIE has put forth a modified GMP that includes VVO/CVR but the filing is in the very early stages of a docketed proceeding. The Division will address proposed modifications to current VVO installations and the Company's system-wide VVO/CVR strategy within that docket. The outcome of the GMP proceeding will inform future ISR Plans as discussed in more detail in Section V.

In summary, the Division recommends an $18 million reduction for Asset Condition capital spend, a $1.5 million reduction in O&M related to GMP, and concurs with the I&M budget. This results in a CY 2023 ISR Plan Asset Condition proposed budget of $35.2 million for capital and $1.4 million for O&M. The Division does not recommend approval of the CY 2024 Plan proposal.

E. Non-Infrastructure Category

This category includes telecommunications and other capital expenditures needed for operation, which are neither related to condition nor system capacity. The Company proposes spend of $1.4 million in CY 2023 and $1.3 million in CY 2024. The levels are consistent with prior budgets and the Division concurs with the CY 2023 proposed spend, but does not recommend approval of CY 2024 within this proceeding.

F. System Capacity and Performance Category

The System Capacity and Performance category is comprised of both Load Relief and Reliability Projects. A significant portion of this discretionary budget is dedicated to Major Projects for substation capacity expansions. For the FY 2024 ISR Plan, RIE includes spend related to seven Major Projects in CY 2023 and CY 2024 that are in various stages ranging from development to close-out. Concurrently, RIE is progressing five Other Area Study Projects over the same timeframe, some of which will eventually be tracked as Major Projects. Along with customary programs, the Company includes the Nasonville Substation rebuild and a new Mainline Recloser Program in CY 2023. Overall, the Company proposes to expend $27 million in CY 2023, or $35 million on a 12-month basis, and $25 million in CY 2024 in the

System Capacity category. The FY 2023 budget and forecast for this same category are $13.5 million and $16.6 million, respectively. Division adjustments include a $9.5 million reduction for the Mainline Recloser program in CY 2023 and $5 million in reductions to Major Projects/Area Studies in CY 2024. The Division's recommended budgets bring RIE's CY 2023 proposal in line with historical spend and allows the Company to progress significant levels of discretionary work. The Company did not accept the Division's adjustments and consensus was not reached. The Division continues to endorse their recommended adjustments and supports approval of $17.1 million for CY 2023 in the System Capacity and Performance Category. The Division does not recommend approval of the CY 2024 Plan proposal. A summary of RIE's proposed 21-month spend, Division adjustments and recommended budget, and a comparison of proposed plans to actual FY 2023 data are below with detailed evaluation of adjustment areas in following sections.

FY 24 ISR Plan ($000) 21-Months System Capacity		RIE Final Proposal (12-22-22)	Division Adjustments	Division Proposed Budget
CY 23	Major Projects & Area Studies	$9,320	0	9,320
	Nasonville	$1,912	0	1,912
	Mainline Reclosers	$9,504	(9,504)	0
	Other	$5,850	0	5,850
	CY 23 Total	***$26,586***	***(9,504)***	***$17,082***
CY 24	Major Projects & Area Studies	$14,707	(5,000)	$9,707
	Nasonville	$3,604		$3,604
	Mainline Reclosers	$0		$0
	Other	$6,787	0	$6,787
	CY 24 Total	***$25,098***	***(5,000)***	***$20,098***
	FY 24 Total-21 months	**$51,684**	**(14,504)**	**$37,180**

ISR Plan Comparison ($000) System Capacity	FY 23 RIE Budget	FY 23 RIE Forecast	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 23 Division Proposed Budget [scaled to 12-mos]
Major Projects & Area Studies	$7,964	$6,077	$12,427	$12,427
Nasonville	$0	$0	$2,549	$2,549
Mainline Reclosers	$0	$990	$12,672	$0
Other	$5,544	$8,994	$7,800	$7,800
CY 23 Total	**$13,507**	**$16,060**	**$35,448**	**$22,776**

1. Major Projects & Area Studies

The System Capacity category is a mixture of legacy projects, or those projects that have been independently studied and historically considered for inclusion in the ISR Plan, and projects associated with the Area Studies. The Aquidneck Island projects (Jepson and Newport projects) previously dominated spend in the System Capacity category and were placed in service during FY 2020 through FY 2022 with minor work remaining in CY 2023. Similar to the Asset Condition category, the Company is progressing several multi-year major projects and also initiating several new Area Study projects within the 21-Month Plan that are contributing to significant budget increases. Proposed Major Projects and new Area Study work are as follows:

FY 24 ISR Plan ($000) System Capacity Major Projects/ Area Studies	FY 23 RIE Budget	CY 23 RIE Proposed Budget	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 24 RIE Proposed Budget
Aquidneck Island	$730	$1,038	$1,384	$0
Chase Hill - Second Half of Station	$0	$0	$0	$0
Chase Hill Common Items	$0	$0	$0	$715
East Providence Substation	$2,495	$1,233	$1,644	$4,449
New Lafayette Substation	$2,914	$750	$1,000	$748
Staples Substation Reliability Imprvmnts	$0	$270	$360	$640
Tiverton Substation	$0	$64	$85	$291
Warren Substation	$1,824	$1,969	$2,625	$3,376
Weaver Hill Rd substation	$0	$1,162	$1,549	$1,852
Sub-Total Major Projects	***$7,964***	***$6,486***	***$8,648***	***$12,071***
Other Area Study Projects	$0	$2,834	$3,779	$2,636
Total	**$7,964**	**$9,320**	**$12,427**	**$14,707**

I have reviewed the justification for several projects either through previous ISR Plan evaluations or Area Studies and continue to support inclusion in the Company's current capital investment plan. These are Aquidneck, East Providence, New Lafayette, and Warren Substations. The Company is now progressing Staples, Tiverton and Weaver Hill Road substation work along with advancing multiple Area Study projects. The Company forecasts $9 million in CY 2023 over 9-months, or over $12 million when scaled to 12-months, and $15 million in CY 2024. This compares to a FY 2023 budget of $8 million. Although budget levels are not as high as RIE proposes for Asset Condition Major Projects, the Company is increasing annual spend by at least fifty percent and progressing many projects with inadequate justification. The major issue continues to be the Company's reliance on its recently completed LRP to inform the sequence and timing of Major Projects. As previously discussed, RIE's LRP reflects a strategy to complete Area Study projects, both condition and capacity related, as expeditiously as possible with no regard for budget impacts. RIE has not produced an acceptable LRP that relies on project criticality, risk assessments, or any other ranking mechanism to validate project

sequencing, thus the ensuing ISR Plan Major Projects portfolio is equally deficient. Specifically, System Capacity and Performance projects should be justified by demonstrating that actual loading or system conditions are materializing to the levels identified in the original Area Study, that those conditions warrant immediate solutions, and that the proposed ISR Plan project aligns with the solution derived in the Area Study. A brief example is the Staples #112 Reliability Improvements Project budgeted at $2.7 million over five years that does not appear to align with the underlying Area Study[28] which also states that a non-wires alternative ("NWA") is currently in consideration for a portion of the project. This raises questions regarding whether the ISR Plan reflects the same solutions as the Area Study but at a different cost estimate, what system conditions have developed that are requiring imminent work, and also why the Company is progressing a project that is under consideration for a NWA. These answers may be clear to RIE, but neither this ISR Plan nor the LRP give any insights on why Staples #112 Reliability Improvements are prioritized before other projects and advancing now.

I have addressed related concerns in previous ISR Plan reports and discussed how the Company has confirmed that system loads are decreasing but that localized loading concerns have developed. The Company also emphasized that major projects categorized in the System Capacity spending rationale also have significant asset condition drivers, and that delaying load relief portions of a project would require progressing asset replacement projects out of line with study recommendations. Based on information provided at that time, I was satisfied that proposed projects were appropriately scheduled. The Company

[28] The Blackstone Valley South Area Study is referenced, which has not been made publicly available.

has now dramatically altered their planning approach by accelerating spend in the LRP and FY 2024 ISR Plan which indicates that no consideration has been given to cost effectively manage localized concerns or to distribute project spend over time to achieve reasonable annual capital investment budgets, particularly for asset condition related projects. RIE has opted for significant project deployment because it has, in its opinion, the resources and cash.

Lastly, I reiterate that that major projects in the development phase are subject to overall cost estimate revisions as final design and engineering are complete. It is in this phase that significant increases have occurred with many projects the Company has advanced in the past. As the process progresses throughout the year, I will evaluate the Company's updated analyses, monitor project estimates and evaluate sanctioning papers to ensure that scope and costs are reasonable and remain aligned with the outcome of Area Studies. As the projects advance through construction, I will also examine actual expenditures against budgeted amounts to determine the Company's success in managing multi-year projects to budgets. To assist in this ongoing evaluation the Company has proactively initiated quarterly meetings with the Division to update ISR projects and budgets. Emerging issues that shift work or budgets between current and prospective ISR plans are addressed along with updates on interrelated dockets and programs. The regular meetings provide the Division with an additional level of oversight and I expect the Company to continue scheduled communication throughout the year, or as needed when unexpected planning deviations develop.

Based on this analysis and discussions with the Company, the Division does not recommend adjustments to the CY 2023 ISR Plan budget for System Capacity Major Projects/Area Studies Projects for a proposed 9-month budget of $9.3 million. Although the Division put forth a $5 million reduction in CY 2024 spend, approval of the CY 2024 ISR Plan is not recommended in this proceeding. In addition, RIE should develop and deliver an acceptable Long-Range Plan before future ISR Plans are submitted.

2. Nasonville Substation Project

In August 2022, the metal clad switchgear at Nasonville Substation was damaged beyond repair due to a bus fault, and the Company will replace the failed switchgear with an open-air straight bus that will include a main breaker, capacitor breaker, and four (4) feeder breakers. Restoration and commencement of design, engineering, and procurement of long lead time materials is captured in the FY 2023 ISR Plan, where the Company incurred $2 million of expenditures in the Damage/Failure category and $1 million in System Capacity. The Company has budgeted an additional $2.7 million in Damage/Failure and $4.5 million in the 21-Month Plan for switchgear replacement. The Company's Northwest Rhode Island Area Study had previously identified the need for Nasonville station upgrades due to contingency load at risk, recommending that a future new 115kV supply line be installed along with a second transformer. RIE will reassess that study as a result of this failure and outcomes will be evaluated by the Division. For the immediate planned work, the Division does not propose modifications to the Company's project implementation plans or budgets and has concurred with the FY 2024 ISR Plan spend as proposed.

At various phases of discussions with the Company, the Nasonville incident has been used to support the need for immediate GMP investments. The Company references Nasonville in its GMP presentations and in the FY 2024 ISR Plan where RIE states that "(m)any factors support the conclusion that the Foundational Investments are urgent, including…lack of situational awareness as evidenced during the August 2022 Nasonville event."[29] The Company's assertion warranted a deeper evaluation which led to discussions and data requests. The Company originally identified lightning as the cause of the fire, which was later revised. The following is a brief progression of events, root cause analysis, and my observations on how the event does not support GMP investment:

- Initially, there was a fault due to tree on distribution line during a severe thunderstorm.
- A downline circuit recloser cleared the feeder fault however, the magnitude and associated energy from the through-fault caused by the fallen tree on the mainline conductors resulted in metalclad switchgear breaker phase terminal failure and the switchgear bus sustained arcing and a fire. It is important to note at this point that this is not a "poster child" event which supports GMP. It is an event which supports the need for fault current and system protective coordination studies, particularly in advance of a massive recloser addition program combined with enhanced vegetation management. The existing line recloser on the circuit did not preclude this event.
- The damaged connection had been previously repaired by the Company and the switchgear, prior to the incident, was considered in "good condition" and ranked as

[29] Bengal, Rooney, Castro, Constable and Reder Testimony at 29: footnote 6.

one of the least critical stations. However, the Company did not perform the necessary inspection and testing to assure the repair was complete and adequate. Again, this is not justification for GMP, but rather an incident of incomplete and inadequate repair work and repair adequacy verification. Those tasks alone would have avoided this event.

- Nasonville has limited redundancy, as was identified in an Area Study. The Company took multiple steps over several days to restore and maintain service while mobile switchgear was delivered and installed.
- RIE claims that additional equipment and technology in the area, or GMP, would have improved "visibility" and "situational awareness" to help with faster and more efficient restoration. The Company provided an estimation of avoided outage minutes if GMP had been implemented. This is a mischaracterization of the benefits of GMP and the deficiencies which caused the event to begin with. Incomplete and inadequate workmanship and testing was the culprit and GMP is not a fix for these shortcomings. This event points to a much different issue and does not support GMP and its cost. RIE should focus on the root cause of the problem so these types of workmanship, supervisory, and engineering deficiencies do not occur in the first place. The Company should have confirmed that investigation and testing of the repair had been performed to assure the repair was complete and sufficient to sustain a through-fault, however, this work did not occur.
- The Division posits that the through-fault failure of the switchgear at a repair point and resulting fire could have been prevented and outage limited to the circuit section associated with the tree damage if RIE had adequately performed core maintenance and met the standard of care for engineering and workmanship. No

amount of GMP is a substitute for taking care of the system, performing work and inspections, and testing to assure repairs are complete and adequate. Visibility and situation awareness does not solve the Nasonville failure root cause problems, which were vegetation management, workmanship and engineering.

3. Mainline Reclosers

RIE proposes $9.5 million spend in just nine months of CY 2023 for a new program to install approximately 100 mainline reclosers. The Company justification for the program is twofold. First, it claims that "New proximity and focus have allowed Asset Managers to recognize an immediate need to change system topology and address deteriorating reliability."[30] However, during Division and Company discussions, the justification provided for the program was that they believed these reclosers were necessary. In addition, the Company cites outage statistics where over the course of a year, RIE experienced 112 sustained circuit breaker interruptions during fair weather days, and notes there are many circuits with overhead line exposure which have limited recloser installations[31]. RIE states that the purpose of the Mainline Recloser initiative is to improve reliability[32], that reclosers will use the latest control technology aligned with the pending GMP, and that location selection will be aligned with ultimate GMP implementation[33]. The Company initiated this program in FY 2023 and will spend nearly $1 million, although it was added after Division approval of the initial ISR Plan.

[30] Bengal, Rooney, Castro, Constable and Reder Testimony at 23:13-15
[31] Bengal, Rooney, Castro, Constable and Reder Testimony at 23:15-21
[32] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 5-3(f)
[33] Docket 22-53-EL, RIE Proposed FY 2024 ISR Plan; Section 2, page 50

In addition, the Company proposes massive amounts of recloser additions in its GMP, totaling over $122 million in the next five years.

The Mainline Recloser program raised several points of contention between RIE and the Division, and I do not support launching this program within the upcoming ISR Plan. The basis for disagreement, explained in more detail below, must be preceded by some basic information. Reclosers are distribution devices mounted on poles at select locations along circuits. Their primary function is sensing line conditions and acting like a circuit breaker when anomalies occur. If a problem is temporary, reclosers have the capability to open, allow a faulted condition to clear, and then reclose again helping to maintain service continuity. If the fault is not temporary, reclosers in strategic locations can open to protect the faulted section and minimize the number of customers affected by an outage. Reclosers are common equipment on distribution systems and also leveraged by utilities for switching schemes in operations. The Company has hundreds of reclosers on its system, categorized as dark (no communication or remote control), remotely operated (two-way commands), and GMP enabled (cable of network connection for automated schemes)[34]. Whether existing, labeled as "Mainline", or "GMP", reclosers are the same equipment and underlying specifications but may be outfitted with varying control technology.

My initial concern with the Mainline Recloser program is that the Division has requested, and the Company has historically agreed, that new programs should be

[34] Docket 22-53-EL, Proposed FY 2024 ISR Plan Attachment DIV 5-3-1_Recloser List

presented to the Division before implementation and be accompanied by justification to sufficiently validate the need, scope, timing, and investment level. This includes requisite benefit-cost analysis ("BCA"). During ISR Plan discussions, when the Company was asked why it initiated the program without informing the Division, RIE responded that RIE had a new localized management structure that deemed recloser additions necessary, even asserting that there should be 1,800 reclosers on the system. This came with no explanation of issues that would drive the need, system evaluation, data, or analysis. Although more information was presented in response to data requests, the Company fell far short of producing documentation the Division would expect to accompany a new initiative. Narragansett Electric, under National Grid, had completed an extensive recloser program assessment and proposed improvements which were presented to the Division and supported by the Division. The Division and I stated a protective coordination study is essential before a massive recloser addition program is advanced. RIE argued that would be done after the fact. I made it clear that a protective coordination study is the standard of care performed on a regular basis by nearly all utilities such as Duke Energy and as outlined in IEEE standards, and RIE's response to that was they spoke to Duke and that Duke does not study its entire system at one time. That, of course, is an incredibly disingenuous retort by RIE considering Rhode Island is the size of just one county in North Carolina served by Duke, and that Duke is one of the largest electric utilities in the country serving 8.2 million customers in six states. The fact is that RIE set a goal for an arbitrary number of recloser additions and then attempted to justify its proposed effort without a single detailed study. Furthermore, National Grid has operated with a fuse sacrifice protection scheme for decades and PPL uses a fuse save protection scheme. RIE is still attempting to

determine which protective coordination philosophy it will utilize and yet it wants to arbitrarily and randomly install some $9.5 million in reclosers on lines with no written and justified plan. This is a significant departure from the Company's previous practices where, for example, National Grid prepared a recloser study in 2016 that evaluated replacements and additions, providing a full analysis including objectives, scope of work, cost estimates and benefits. National Grid shared this comprehensive evaluation when proposing the program in the ISR Plan, but now the Company has unilaterally elected to depart from this practice under RIE leadership with no study to justify the departure.

In addition, the Company is pushing recloser installations through two unrelated programs, Mainline Reclosers and GMP. Both programs are reliability driven yet are not coordinated. The Company purports that Mainline Reclosers will be installed in optimal physical locations but has only identified a list of candidate circuits. RIE has budgeted for 100 mainline installations over 9 months which are well in advance of the hundreds of additional reclosers planned in the GMP. The GMP recloser installations are part of the GMP Roadmap, so are merely a vision at this point. The Company even designates reclosers differently in the ISR Plan, with Mainline being discretionary and GMP being non-discretionary, although these reclosers serve the same functions. The Division has consistently supported, and encourages, appropriate technology deployment for safety, reliability and to optimize operations. I am not opposed to recloser additions, but I strongly disagree with the Company's approach. The Company should propose recloser installations in a system-wide coordinated fashion, fully justified, and supported by communication and protective coordination studies in

advance of implementation. Anything less falls far below the standard of care in the industry and is imprudent. To accomplish this, the Mainline Recloser program should be paused until these items are incorporated and, furthermore, installations should be coordinated with GMP reclosers. The Company should treat the installation of all underlying reclosers and associated communications, whether deemed Mainline or GMP, as discretionary spend for reliability. For these reasons, the Division does not concur with including Mainline Reclosers in the upcoming ISR Plan and recommends a $9.5 million reduction. I also address GMP reclosers in Section V.

4. Other Projects

The remaining programs in System Capacity include recurring work such as 3V0, EMS/RTU, Blanket work and a new reliability program aimed at reducing outages for customers experiencing four or more interruptions in a rolling twelve-month period (CEMI-4). CEMI-4 is a new program driven by the Company's assessment of its performance against utilities that have responded to an EEI survey. RIE indicates that there are approximately 60,000 CEMI-4 customers, placing the Company in the third quartile. A goal has been set to achieve first quartile performance. The Company states that the purpose of the program is not to impact overall system reliability but "…to identify and fix reliability issues for customers who are experiencing significantly poorer service than the average customer."[35] Similar to other newly proposed programs, the Division received limited information on the justification, planned actions, and BCA. The Company responded to several data requests and ultimately

[35] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 2-2

produced a BCA in its final proposed ISR Plan Filing, indicating a marginal benefit-cost ratio of 1.05. The annual budget starts at approximately $1 million and rises to $1.6 million in future ISR Plans.

Although the Division did not recommend adjustments to the CEMI-4 initiative, my opinion is that RIE is once again prematurely launching a reliability program by loosely correlating the outcome of a survey to customer satisfaction. The CEMI-4 program also overlaps with current initiatives such as the worst performing feeder program and vegetation management pockets of poor performance. This group of programs relies on different data and approaches that similarly address localized reliability issues. The CEMI-4 program is also a resiliency effort since it takes storms into account when determining poor performance. These observations were not addressed at length with the Company due to the focus on other major issues presented in the ISR Plan proposal. However, I recommend that RIE provide additional documentation regarding how the CEMI-4 program will be implemented and tracked. Consideration should be given to the worst performing feeder program structure where the Company performs a system evaluation, determines parameters for priority circuits, develops comprehensive engineering reviews with recommended solutions, screens solutions against other planned system projects, and projects costs.[36] The Division will expect the CEMI-4 program to be measured and validated with updated BCAs as the program progresses to determine the prudency of continuation.

[36] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 2-1

There were no additional adjustments to Other programs in the System Capacity category. The comprehensive evaluation and discussions with the Company on all System Capacity and Performance categories resulted in Division recommended adjustments and support for a $17.1 million budget for CY 2023. The Division does not recommend approval of the CY 2024 Plan proposal.

Through the course of discussions and data analysis, the Division recommends a total proposed discretionary budget of $53.7 million for CY 2023, comprised of the Asset Condition, Non-Infrastructure, and System Capacity & Performance categories. The Division does not recommend approval of the CY 2024 Plan proposal.

V. GRID MODERNIZATION PLAN

On December 30, 2022, RIE filed its Grid Modernization Plan in Docket 22-56-EL. The GMP replaced a previous version produced by National Grid in Docket 5114. However, prior to finalizing and filing the full GMP with the Commission RIE concluded that it was necessary to include significant GMP expenditures in its FY 2024 ISR Plan proposal. Proposed spend was included in the pre-file information, the Preliminary ISR Plan provided to the Division on October 21, 2022, and again in the Final 21-Month Plan filing dated December 22, 2022. The Division asserted that GMP spend was prematurely included in the ISR Plan and recommended removing the proposed budget until the GMP progressed through a docketed proceeding. The Division recommended a $81.9 million reduction to remove GMP spend, which RIE rejected. The Company's proposed Plan and Division adjustments are as follows:

FY 24 ISR Plan ($000) 21-Months Grid Modernization		RIE Final Proposal (12-22-22)	Division Adjustments	Division Proposed Budget
CY23	ADMS/DERMS Advanced	$105	($105)	$0
	Advanced Reclosers	$17,405	($17,405)	$0
	DER Monitor/Manage	$0	$0	$0
	Electromechanical Relay Repl Pgm	$2,040	($2,040)	$0
	Fiber Network	$8,105	($8,105)	$0
	IT Infrastructure	$1,514	($1,514)	$0
	Mobile Dispatch	$74	($74)	$0
	Smart Capacitors & Regulators	$4,635	($4,635)	$0
	CY 23 Total Grid Mod	***$33,877***	***($33,877)***	***$0***
CY24	ADMS/DERMS Advanced	$140	($140)	$0
	Advanced Reclosers	$25,264	($25,264)	$0
	DER Monitor/Manage	$0	$0	$0
	Electromechanical Relay Repl Pgm	$2,853	($2,853)	$0
	Fiber Network	$11,348	($11,348)	$0
	IT Infrastructure	$2,019	($2,019)	$0
	Mobile Dispatch	$98	($98)	$0
	Smart Capacitors & Regulators	$6,261	($6,261)	$0
	CY 24 Total Grid Mod	***$47,983***	***($47,983)***	***$0***
	FY 24 Total Grid Mod 21-months	**$81,860**	**($81,860)**	**$0**

RIE's inclusion of GMP spend in the ISR Plan was a significant point of contention with the Division during the evaluation period and consumed considerable time and unnecessary attention. At all stages of discussions, the Division strongly opposed GMP investments in the FY 2024 ISR Plan. The Division repeatedly advised RIE that before introducing spend for new programs within an ISR Plan, the Company must provide requisite justification for Division examination. In addition, GMP is a unique and separate program that would be subject to a Commission proceeding for approval, and Division concurrence with associated ISR Plan spend would be contingent on the outcome of that proceeding. RIE opted to disregard precedent practices and continued to propose GMP investments in the ISR Plan prior to actually finalizing its GMP or providing the GMP to the Division. RIE filed its GMP on December 30, 2022, after the Final FY 2024 ISR Plan proposal was filed on December 23, 2022 and certainly far after the Division's statutory evaluation period had expired. The

Company placed the Division in an impossible position of having to evaluate and concur with GMP foundational investments reaching over $300 million by 2028[37] before making the plan available for evaluation. The Division's request for justification was met with a series of AMF and GMP PowerPoint presentations that the Company had used in various stakeholder meetings claiming the need, urgency, and purported benefits of GMP. The Division asked numerous interrogatories to extract information and data. RIE's collective responses were far short of what should have been provided, particularly considering the evaluation was taking place before the actual plan was finalized. It was evident that the Division was being forced to evaluate the GMP outside of a regulatory proceeding, with limited information, and without adequate time. The Division performed its expected ISR Plan review duties, but the effort to consider GMP spend was time consuming and unnecessary, ultimately limiting opportunities for more productive assessments of other ISR Plan categories. I believe that a thorough examination of the GMP in the forthcoming proceeding under Docket 22-56-EL will reveal significant issues with RIE's GMP assumptions that must be resolved before strategic spend is approved. The Division's stance firmly remains that all GMP spend in the proposed ISR Plan should be removed, that the GMP must be considered separately under Docket 22-56-EL, and that GMP spend in future ISR Plans must be informed by the outcome of that docket. Below are several key concerns that arose in my limited evaluation of the GMP. The Division recommends a full GMP evaluation in Docket 22-56-EL. These points are not intended to be all-encompassing but rather assist the Commission in understanding why GMP spend in this ISR Plan is premature.

[37] Docket 22-53-EL, Proposed FY 2024 ISR Plan; Attachment 1-36-4, page 26

1. The majority of categories in the Company's proposed GMP foundational spend are related to infrastructure that is customarily installed as part of a utility's normal course of business and not considered grid modernization. Specifically, the Company has been deploying reclosers, relay replacements, fiber network, capacitors, and regulators on a systematic basis for decades. Adding communications and controlling devices with advanced software does not change this precedent. Similarly, RIE considers GMP non-discretionary spend. This directly conflicts with how these devices have been deployed in the past, which is discretionary spend and should be treated as the same going forward.

2. RIE developed a model with forecasted load and generation, then added varying amounts of electric vehicles and heat pumps through 2050 to identify system issues and evaluate two solution sets: "Without GMP" which relies on traditional grid infrastructure and DER curtailment, and "With GMP" which are foundational investments (listed above) with yet to be determined future investments. The Company then derived a 20-year BCA of 7.5 on a nominal basis for the recommended GMP solution.[38] The Division has zero confidence in the analysis, GMP solution, or the calculated BCA given that the enormous amount of complex data sets, models, assumptions and other inputs used to compare solutions, estimate costs, and determine benefits were never made available during discussions with the Company.

3. RIE characterizes $314 million of foundational investments as "No Regrets Investment that is needed for any adoption scenario."[39] I do not believe that a plan that is contingent

[38] Docket 22-53-EL, Proposed FY 2024 ISR Plan; DIV 5-6(f)
[39] Docket 22-53-EL, Proposed FY 2024 ISR Plan; Attachment 1-36-4, page 26

on system modeling through 2050 can be developed with the Company's stated certainty. There are many approaches to enhance system reliability, provide grid visibility, and balance load and generation. For instance, PPL uses smart switches and voltage control devices with ADMS.[40] Stakeholders deserve the opportunity to ensure that RIE is adopting the most economic approach and not rushing to deploy infrastructure that is not necessary or is installed before system needs dictate resolution.

4. GMP alignment with the Company's own Act on Climate report, gas decarbonation efforts, the state's forthcoming 2025 Climate Strategy, and initiatives of various state agencies in meeting Rhode Island's long term carbon reduction goals is improbable. RIE has pre-empted most initiatives by proposing immediate investments without a full understanding of a statewide strategy. Strategic alignment should be confirmed before embarking on a plan to spend over $300 million.

5. Grid modernization technology is dependent on robust communications, yet RIE does not include a system wide communication study in advance of device deployment. Specifically, the preponderance of GMP spend is targeted toward reclosers which rely on communication for control schemes to protect and sectionalize the grid. As I discussed previously, the Company should examine recloser installations holistically (Mainline and Advanced/GMP) and put forth a justification document for Division review prior to device installations. RIE has admitted that the National Grid (current RIE) protective Coordination Guidelines are dramatically different than those of PPL. RIE has yet to decide which guidelines to follow, yet it claims there will be significant SAIFI improvements based on

[40] Docket No. D-21-09, DIV 2-8

the PPL performance. Such a claim is baseless since the protective coordination guidelines are so different between the two companies and it would take a decade or more to transition from one set of guidelines to the other and at a tremendous cost. Furthermore, RIE historical SAIFI is below the Commissions requirements and SAIDI is also below the both the Commission requirements and the statistics of PPL.

6. Incremental reliability benefits produced by GMP must be examined in the context of current reliability performance. The Company, as I have discussed at length in this report, has enjoyed excellent reliability. I concur that RIE should attend to unfavorable performance trends which can be accomplished through enhanced vegetation management practices and potentially other reliability programs. However, there are no system performance issues that demand an immediate $82 million in GMP investments. The GMP plan indicates no regard for customer rate impacts or whether customers are willing to pay for the purported incremental benefits while already paying for system improvements through other ISR Plan categories.

7. The major GMP benefit is avoiding infrastructure that is determined though a subjective process relying on, among other items, future assumptions regarding time varying rates and customer behavior. The inputs and analysis demand close scrutiny, particularly when analyzing system needs over twenty years which is far beyond any certain planning horizon. RIE has argued that the J. D. Powers Survey is a driving factor. The Division disagrees. That survey was done during the acquisition transition and is a singular snapshot. Also, RIE pointed to Delmarva's high ranking without stating that Delmarva has a very slow and measured approach to GMP, and is rather focused on infrastructure and

vegetation management to address core problems at a much lower cost. RIE has the same core problems which GMP will not fix.

8. The nexus between AMF and GMP must be examined and acknowledged, particularly before advancing grid modernization spend. This is illustrated by the Company's comments in their AMF filing in Docket 22-49-EL, where they stated that grid modernization cannot be fully realized without AMF, making AMF a prerequisite and further referring to it as the "linchpin".[41] The Company further claims that the "…granular information that AMF provides is both foundational to and enhances many of the GMP functionalities. As a result, it makes sense to move forward with AMF first. Simply put, AMF is necessary and valuable independent of the GMP, and grid modernization cannot be fully realized without AMF, making AMF a prerequisite for, and foundational to, the GMP."[42] These statements highlight several issues. Initially, there is concern that RIE captures benefits in GMP that are primarily AMF enabled, thereby overstating GMP benefits. This will require parallel assessment of AMF and GMP filings to determine the overlap and make necessary adjustments to the GMP business case. The more critical matter, however, is that RIE asserts that AMF is a pre-requisite for GMP yet the Company proposes concurrent implementation of the programs. I point to the fact that AMF, if approved as RIE proposes, will be three and a half years or more before it is installed and fully functional. More importantly, the full communication network including integration with PPL's Advanced Distribution Management System ("ADMS") has not been adequately outlined or scheduled. Both AMF and GMP rely on this fundamental

[41] Docket 22-49-EL, AMF Business Case, Pre-filed Direct Testimony of David J. Bonenberger at 10:1-12
[42] *Id*. at 16:6-10.

communication network and system integration for operations and to achieve expected benefits. It is only logical that sizable grid modernization capital investments should await completion of AMF and the telecommunication network. Most certainly, grid modernization capital should not be prematurely inserted into the FY 2024 ISR Plan.

9. DER Monitor/Manage must be evaluated under the lens of cost causation. If the utility is making investments to manage generation, those costs should be assigned to DER customers and not recovered through the ISR Plan or, ultimately, distribution rates. This is especially important if investments are made to avoid generation curtailment, thereby improving the system to benefit DER but allocating costs to distribution customers. RIE is not being forthright in its analysis of DER and the fact that large solar DER is rapidly declining due to the unavailability of land. Large wind projects will be offshore which require significant infrastructure and not GMP to avoid infrastructure. Thus, one of primary arguments for GMP advancement is largely unnecessary.

VI. VEGETATION MANAGEMENT

The Company proposes Vegetation Management expenditures of $11 million in CY 2023, or $14 million scaled to 12-months, and $13 million in CY 24. The Vegetation Management Program, which includes customary programs and a new risk reduction initiative, was not adjusted.

FY 24 ISR Plan ($000) 21-months Vegetation Management	FY 23 RIE Budget	CY 23 RIE Proposed Budget	CY 23 RIE Proposed Budget [scaled to 12-mos]	CY 24 RIE Proposed Budget
Cycle Pruning (with Enhanced Trimming)	$7,300	$7,690	$10,253	$9,078
Risk Reduction Work - on cycle	$0	$200	$267	$350
Risk Reduction - off cycle (EHTM)	$1,750	$500	$667	$500
Sub-T (off & on road)	$350	$350	$467	$750
Police/Flagman Detail	$775	$630	$840	$933
Pockets of Poor Performance	$200	$100	$133	$75
All Other Activities*	$1,500	$1,125	$1,500	$1,750
Total	**$11,875**	**$10,595**	**$14,127**	**$13,436**

** Interim/Spot Trim, Customer Requests, Emergency Response, Worst Feeders, etc.*

Consistent with historical budgets, the major spending component is Cycle Pruning but with increasingly higher budgets due to shortages in qualified tree workers, rising fuel costs and inflation. The Company will also begin requesting vendor bids for cycle trim work to include traffic control in the pricing instead of a pass-through cost in an effort to ensure that vendors manage costs effectively. Customary programs are proposed for hazard tree removals due to pest infestation, sub-transmission clearing, and core activities such as spot trimming, customer requests, and emergency response at levels consistent with or higher than the previous year. RIE intends to incorporate data science into vegetation management practices to drive targeted maintenance based on actual vegetation health and conditions. Examples are using data analytics to pinpoint the annual feeder list for circuit clearing as opposed to a feeder list based solely on geography and not system conditions. Once feeders are identified, RIE will examine the circuit in advance, using data analytics and field observation to identify areas where tree-related outages risks are high. Another example is the use of Lidar technology to quantify risks by providing more accurate distance and vegetation health measurements when managing sub-transmission work.

The Company is proposing continued funding for Pockets of Poor Performance but at declining levels. RIE states that it has seen a 60% reduction in tree events and a 49% reduction in

customers interrupted where work has been performed. The Company anticipates that these pockets will be addressed in the normal cadence of work when data analytics and technology are incorporated, and therefore forecasts minimal future funding for a separate program. The reliability improvements suggest that the program should continue, and I support the Company's efforts to collapse this this work into normally scheduled activities.

I have evaluated the Vegetation Management Program in detail and on multiple levels in prior ISR Plan assessments and continue to support the Company's funding categories with proposed level and frequency of planned work. Trees remain the leading cause of customer interruptions and I strongly endorse efforts to address the root cause of outages as opposed to restoration investments that only minimize the number of customers affected but don't eliminate the source. I have previously commented on the importance of vegetation management, since protecting core distribution facilities from the dangers of falling limbs and trees will be more critical as grid connected technologies are deployed that rely on an intact and functioning system to provide intended benefits. There are no cost-effective substitutes for robust vegetation management and the Company's proactive approach, balanced with cost management, continues to be integral to system reliability. The Company has consistently reported improved reliability in areas of the system undergoing cycle clearing or hazard tree removals, and is augmenting practices with data-analytics that will drive additional improvements. In future stages, RIE intends to leverage risk-based modeling tools developed by PPL that are expected to substantially reduce customer interruptions. For instance, PPL's SAIFI improved by 14% after implementing vegetation management risk modeling[43]. RIE has expressed the expectation of achieving similar

[43] See PPL 2021 AEIC award information: https://www.fortnightly.com/fortnightly/2021/10-0/association-edison-illuminating-companies-top-10-awards-2021

or even greater improvements in Rhode Island once the vegetation management program is enhanced. By information produced to date, the SAIFI improvements would come at minimal marginal costs, particularly when compared to hundreds of millions of dollars planned for reclosers and GMP that don't address the root cause of outages. I am in full support of the Company's efforts to improve and cost effectively manage vegetation. The Division concurs with RIE's proposed program enhancements and spend for CY 2023 in the amount of $10.6 million. The Division does not recommend approval of the proposed CY 2024 Plan proposal in this proceeding. I anticipate that the Company will put forth a plan document for Division review in advance of future material changes that includes program modifications and a cost-benefit analysis that is well supported by quantifiable metrics.

VII. SUMMARY AND RECOMMENDATIONS

I summarize the FY 2024 ISR Plan review between the Company and the Division by repeating several observations from the FY 2023 Electric ISR Plan review. I caution that the Division remain diligent in its expectations of the Company when putting forth a capital investment plan, since changes will be inevitable:

National Grid's distribution planning process and ISR Plan filings have evolved to their current state after nearly 15 years of iterative improvements. As the Division's consultant, I have been highly involved in the ISR Plan and related proceedings, and note that National Grid had achieved what I consider top tier planning proficiencies. The transparency of the process along with the Company's willing engagement has resulted in a distribution capital investment plan that is supported by robust system assessments and engineering analysis. The plan is driving top quartile reliability results in a cost-effective manner. It takes an extraordinary number of employees, both at the corporate and state jurisdictional level, to prepare and implement the ISR Plan. The Division

expects Narragansett, now owned by PPL, to continue ISR Plan development in a manner that is consistent with the procedures and best practices adopted by Narragansett over many years including Area Studies, Long-Range Plans, protective coordination studies, cost-benefit analyses, and other studies and methods that demonstrate the need and timing of capital investments required to support safety and reliability objectives in an affordable manner. In addition, efforts to improve project planning and execution cannot be compromised.

While it is impossible to predict outcomes based on the ownership transfer to PPL, it is certain that changes will occur. New internal practices may be imposed that appear as minor adjustments, such as revised construction or vegetation management standards, but in reality could have considerable implications on Narragansett's cost of providing service. Therefore, Company philosophies and guidelines must be closely monitored to ensure that ratepayers are not subject to unnecessary costs for services that add little or no value.

The Company must remain engaged throughout the year to keep the Division apprised of developments that impact the ISR Plan. The Division will be vigilant in its oversight of these impacts to ensure that: 1) changes are necessary and produce quantifiable benefits which accrue to ratepayers that outweigh costs, 2) there is no degradation to service, and 3) ratepayers do not incur excess or duplicative costs.

This is the first ISR Plan developed and filed by the Company since PPL's acquisition of Narragansett Electric Company. At the outset, RIE upended the ISR Plan process by putting forth an unprecedented and aggressive distribution capital investment plan that spans 21-months as opposed to the statutorily required annual fiscal period (12-months), while proposing to nearly

double annual spend relative to historical levels. RIE's filing deviates significantly from Plans going back to FY 2012 with a substantial amount of proposed spend that is unjustified. RIE proposes premature programs and was unable, or unwilling, to provide requisite support necessary for the Division, during its limited review period, to sufficiently validate the need, scope, timing, and investment level, particularly for GMP which comprised 25% of the budget. The Division and Company failed to reach consensus. To further complicate the process, RIE did not accommodate the historically earlier proposal delivery to the Division which had allowed the Company and Division more time to work through all the details and reach a consensus on all prior ISR Plan filings. After the negotiation period of only 60 days elapsed, the Company filed its Final FY 2024 ISR Plan Proposal on December 23, 2022, which was dated December 22, 2022. On January 20, 2023, the Commission ruled that the Company must submit a fiscal year plan, from April 2023 through March 2024, which RIE filed as a Supplemental Budget on January 27, 2023 (addressed in Appendix-3). Although RIE reduced some categories of spend, the revised Supplemental Budget continues to disregard the need to balance safety and reliability with efficient benefit/cost considerations.

The Division cannot support the RIE Supplemental Budget of $176.3 million. The maximum level the Division can support is $111.03 million. Any level above this I find imprudent and excessive lacking any justification. The Division remains firm in its recommendation that all GMP spend be removed from the ISR Plan until GMP has progressed through an appropriate regulatory proceeding. The GMP capital proposed in FY 2024 ISR Plan is very premature, lacks any studies and coordination with other programs designed to enhance reliability and DER penetration, and fails to consider the DER land availability constraints impacting speed of DER additions. Furthermore, there is a complete lack of consideration of affordability while taking a

more measured approach similar to other utilities in their advancement of grid modernization. RIE characterizes the investments as essential pro-active programs, yet they are looking out to 2030, 2040 and 2050 which is so far into the future that clearly immediate action is not prudent or warranted. Additionally, AMF, which RIE says is a linchpin to grid modernization, has not even been started and telecommunication systems are not in place to make any equipment installations effective.

The objectives of my recommendations for this ISR Plan year are to address specific deficiencies in the Company's FY 2024 ISR Plan while reinforcing the Division's expectations for long term planning and capital investment justification. I firmly believe that the ISR Plan process will be more effective if these recommendations are observed, helping the Division and RIE reach consensus and delivering proposals to the Commission that strike an appropriate balance of investment levels to maintain safety and reliability and modernize the grid, while considering ratepayer impacts and affordability. I continue to endorse the previous twelve recommendations included in my report, as updated, and the additional four new recommendations as follows:

1. The Company shall complete a systemwide protective coordination study, demonstrating the need, the location, and/or the manner in which reclosers will be coordinated, in advance of progressing major recloser additions.

2. The Company shall deliver a holistic 10-year Long-Range Plan as contemplated in these Recommendations, with all strategic capital investments including AMF and GMP, for Division review by June 1, 2023. The Long-Range Plan must be adequately supported and

accompanied by a level of detail that allows stakeholders to sufficiently validate the need, timing and level of proposed investment.

3. The Company shall present new programs, major projects, or material modifications to existing programs to the Division in advance of including the programs in the ISR Plan. The Company shall produce requisite justification at a level of detail to sufficiently validate the need, timing and level of proposed investment, including a benefit-cost analysis. The Company shall also propose a methodology to separately track, measure and validate program costs and benefits.

4. The Company shall not include spend in the ISR Plan for initiatives or programs that are subject to Commission review and/or approval prior to the program progressing through a regulatory proceeding.

5. The Company shall continue to coordinate with the Division to monitor and report on work performed under Damage/Failure, I&M, and related Asset Replacement blanket programs to validate proper classifications. The Company shall put forth program adjustments in the FY 2025 ISR Plan that include advancing Damage/Failure to a "fix on failure" strategy.

6. The Company shall develop an alignment between various planning and project evaluation processes, with consideration as to how a grid modernization strategy may be incorporated. This includes, but is not limited to, the System Reliability Procurement ("SRP") plans, Area Studies, ISR Plan, non-wires alternatives ("NWA") options and internal Design Criteria.

7. The Company shall continue enhancing current and future study documents supporting Asset Replacement and System Capacity programs or projects as applicable to include, at a minimum:

   - The traditional elements included in the Company's current studies including, but not limited to, purpose and problem statement, scope and program description, condition assessment/criticality rankings, alternatives considered, solution, cost and timeline.
   - Discussion on the impact to related Company initiatives, Commission programs, the various pilot projects, or other requirements driven by SRP, Distribution System Planning ("DSP"), Heat Maps, and emerging initiatives.
   - A detailed comparison of recommendations to Area Studies to determine if solutions are aligned with study outcomes, noting adjustments required to avoid redundancy in planning.
   - An evaluation of potential incremental investments that support the Company's long - term grid modernization strategy. This includes description of technology or infrastructure investment, cost-benefit to traditional safety and reliability objectives, and additional operational benefits achieved, if implemented. The GMP should be closely correlated with all ISR Plan investments, including both recurring and newly proposed programs.
   - A robust NWA evaluation for projects passing initial screening that clearly identifies alternatives considered, costs, and benefits.
   - A correlation of the 11 Area Studies to each other for the development of a holistic system Long-Range Plan which further informs the ISR Plan.

8. The Company shall continue to develop a System Capacity Load Study and a 10-year Long-Range Plan in order to increase the level of support and transparency for the capital budget. The Company shall analyze the overall system in a holistic manner using the now completed 11 Area Studies to establish enhancements in the Area Study solutions. The Company shall use the completed Area Studies to re-prioritize and sequence all solutions and major projects in the Long-Range Plan. The Company shall submit and present the outcome of each revised Area Study to the Division at the time of completion. These studies shall include a separate Non-Wire Alternative analysis of the projects consistent with the requirements of other program commitments. The Company shall submit a report with updates on modeling activities, holistic system long-range plan development and revision of each current and future planned Area Study status at least 120 days prior to filing its FY 2025 ISR Plan Proposal, but in any event no later than August 31, 2023.

9. The Company shall manage major Asset Replacement and System Capacity & Performance project budgets separate from other discretionary projects, such that any budget variances (underspend) will not be utilized in other areas of the ISR Plan. The Company shall provide quarterly budget and project management reports.

10. The Company will continue to manage (underspend/overspend management) individual project costs within the ISR Plan discretionary category (comprised of Asset Condition and System Capacity and Performance projects), such that total portfolio costs are aligned within a discretionary budget target that excludes major substation projects.

11. The Company shall continue to provide quarterly reporting on Damage/Failure expenditures to include the details of completed projects by operating region. The Company will separately identify Level I projects repaired as a result of the I&M program.

12. The Company shall continue to provide a detailed budget for System Capacity & Performance and Asset Condition in order to allow for transparency on a project level basis for the current and future 4-year period. The budget shall be provided in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

13. The Company shall submit an evaluation of future proposed Asset Condition projects as compared to the Company's Long-Range Plan in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

14. The Company shall continue to submit its detailed substation capacity expansion plans and load projections, and include an evaluation of proposed projects against the Company's Long-Range Plan in advance of the FY 2025 ISR Plan Proposal filing, and in any event no later than August 31, 2023.

15. The Company shall continue to submit a cost-benefit analysis on the Vegetation Management Cycle Clearing Program and a separate cost-benefit analysis on the Enhanced Hazard Tree Management program, and an additional assessment of the RIE modifications in the program proposed to deliver a 15 to 18 percent SAIFI improvement for the Division's review prior to submitting the Company's FY 2025 ISR Plan Proposal, and in any event no later than August 31, 2023.

16. The Company shall provide continuous and timely updates on ISR Plan team members and responsibilities, material changes to Company guidelines, standards or processes that affect distribution planning, or any proposed changes to the ISR Plan process. The Company shall, at minimum, provide updates at quarterly presentations of the quarterly reports.

APPENDIX 1

Appendix 1

Historical Budgets versus Actual

Spending Rationale	FY 2006 Budget	FY 2006 Actual	FY 2007 Budget	FY 2007 Actual	FY 2008 Budget	FY 2008 Actual
Customer Request/Public Requirements	20,302,000	22,885,193	17,902,500	21,012,048	24,630,000	23,887,492
Damage/Failure	3,250,000	8,264,656	4,550,000	7,442,272	5,660,000	7,642,277
Total Non-Discretionary	***23,552,000***	***31,149,849***	***22,452,500***	***28,454,320***	***30,290,000***	***31,529,769***
Asset Condition	9,323,000	5,828,465	8,641,000	8,342,907	10,020,000	12,559,436
Non-Infrastructure	793,000	(2,196,297)	990,000	3,041,061	75,000	385,109
System Capacity & Performance	10,276,500	10,980,393	12,961,500	11,545,608	12,434,000	13,558,424
Total Discretionary	***20,392,500***	***14,612,561***	***22,592,500***	***22,929,576***	***22,529,000***	***26,502,969***
Grand Total	**43,944,500**	**45,762,410**	**45,045,000**	**51,383,896**	**52,819,000**	**58,032,738**
Vegetation Management	-	-	-	-	-	6,630,000
Inspection & Maintenance Program	-	-	-	-	-	-

Spending Rationale	FY 2009 Budget	FY 2009 Actual	FY 2010 Budget	FY 2010 Actual	FY 2011 Budget	FY 2011 Actual
Customer Request/Public Requirements	24,022,668	21,171,756	23,726,000	19,311,885	21,014,000	14,631,340
Damage/Failure	6,596,000	8,345,442	7,919,000	9,031,133	9,365,000	13,194,101
Total Non-Discretionary	***30,618,668***	***29,517,198***	***31,645,000***	***28,343,018***	***30,379,000***	***27,825,441***
Asset Condition	10,090,732	10,941,238	14,253,000	13,065,303	7,201,000	5,830,800
Non-Infrastructure	242,600	284,808	168,000	(590,138)	685,000	705,603
System Capacity & Performance	16,707,000	14,595,922	22,434,000	17,454,290	8,635,000	10,758,714
Total Discretionary	***27,040,332***	***25,821,968***	***36,855,000***	***29,929,455***	***16,521,000***	***17,295,117***
Grand Total	**57,659,000**	**55,339,166**	**68,500,000**	**58,272,473**	**46,900,000**	**45,120,558**
Vegetation Management	-	7,857,000	-	6,882,000	-	4,829,000
Inspection & Maintenance Program	-	-	-	-	-	-

Spending Rationale	FY 2012 Budget	FY 2012 Actual	FY 2013 Budget	FY 2013 Actual	FY 2014 Budget	FY 2014 Actual
Customer Request/Public Requirements	21,636,500	13,075,154	20,006,000	10,410,223	16,509,000	17,137,642
Damage/Failure	9,705,000	12,992,859	10,422,000	17,515,452	10,050,000	14,373,392
Total Non-Discretionary	***31,341,500***	***26,068,013***	***30,428,000***	***27,925,675***	***26,559,000***	***31,511,034***
Asset Condition	12,318,050	11,520,099	11,863,000	8,070,832	20,242,000	20,904,838
Non-Infrastructure	278,000	266,545	336,000	2,269,065	255,000	(346,246)
System Capacity & Performance	17,962,450	13,955,240	13,913,000	11,249,210	12,544,000	25,972,338
Total Discretionary	***30,558,500***	***25,741,884***	***26,112,000***	***21,589,107***	***33,041,000***	***46,530,930***
Grand Total	**61,900,000**	**51,809,897**	**56,540,000**	**49,514,782**	**59,600,000**	**78,041,964**
Vegetation Management	9,826,000	8,176,000	8,256,000	8,248,749	8,476,000	8,529,815
Inspection & Maintenance Program	2,479,230	1,465,884	2,270,900	1,480,205	3,779,000	3,611,958

Historical Budgets versus Actual (Continued)

Spending Rationale	FY 2015 Budget	FY 2015 Actual	FY 2016 Budget	FY 2016 Actual	FY 2017 Budget	FY 2017 Actual
Customer Request/Public Requirements	14,537,000	17,759,797	15,647,000	17,412,295	19,450,550	20,232,661
Damage/Failure	9,816,000	3,044,445	11,177,000	14,531,159	11,467,000	15,614,335
Total Non-Discretionary	***24,353,000***	***20,804,242***	***26,824,000***	***31,943,454***	***30,917,550***	***35,846,996***
Asset Condition	19,511,000	25,140,871	24,053,000	27,178,961	33,280,427	31,274,161
Non-Infrastructure	277,000	1,216,345	275,000	457,389	275,000	621,795
System Capacity & Performance	21,759,000	25,889,850	22,148,000	19,919,705	18,968,000	16,370,536
Total Discretionary	***41,547,000***	***52,247,066***	***46,476,000***	***47,556,055***	***52,523,427***	***48,266,492***
Grand Total	**65,900,000**	**73,051,308**	**73,300,000**	**79,499,509**	**83,440,977**	**84,113,488**
Vegetation Management	7,726,000	8,029,095	8,884,000	8,893,000	8,719,000	8,719,000
Inspection & Maintenance Program	2,995,000	2,022,743	3,333,000	1,196,756	1,611,750	1,611,750

Spending Rationale	FY 2018 Budget	FY 2018 Actual	FY 2019 Budget	FY 2019 Actual	FY 2020 Budget	FY 2020 Actual
Customer Request/Public Requirements	21,853,000	19,627,243	19,005,000	23,989,000	27,025,000	29,148,000
Damage/Failure	11,379,000	19,184,118	13,674,000	13,998,000	13,505,000	15,463,000
Total Non-Discretionary	***33,232,000***	***38,811,361***	***32,679,000***	***37,987,000***	***40,530,000***	***44,611,000***
Asset Condition	42,744,000	17,241,994	29,768,000	30,708,000	39,675,000	34,965,000
Non-Infrastructure	553,000	362,242	556,000	673,000	550,000	361,000
System Capacity & Performance	24,092,000	50,642,444	39,764,000	41,704,000	21,045,000	25,463,000
Total Discretionary	***67,389,000***	***68,246,680***	***70,088,000***	***73,085,000***	***61,270,000***	***60,789,000***
Grand Total	**100,621,000**	**107,058,041**	**102,767,000**	**111,072,000**	**101,800,000**	**105,400,000**
Vegetation Management	9,400,000	9,515,300	9,800,000	9,800,000	10,400,000	10,400,000
Inspection & Maintenance Program	1,230,800	684,744	1,289,000	1,289,000	1,243,000	1,243,000

Spending Rationale	FY 2021 Budget	FY 2021 Actual	FY 2022 Proposed	FY 2022 Actual	FY 2023 Budget	FY 2023 Forecast
Customer Request/Public Requirements	24,540,000	22,568,000	27,237,000	34,334,567	27,183,000	29604948.26
Damage/Failure	12,365,000	16,275,000	12,198,000	14,250,910	14,251,000	16391865.52
Total Non-Discretionary	***36,905,000***	***38,843,000***	***39,435,000***	***48,585,477***	***41,434,000***	***45,996,814***
Asset Condition	41,120,000	42,691,000	40,569,000	35,791,708	48,288,000	44651218.83
Non-Infrastructure	580,000	634,000	1,310,000	1,100,074	1,520,000	898421.18
System Capacity & Performance	25,145,000	18,344,000	20,286,000	15,303,310	13,508,000	16060000
Total Discretionary	***66,845,000***	***61,669,000***	***62,165,000***	***52,195,092***	***63,316,000***	***61,609,640***
Grand Total	**103,750,000**	**100,512,000**	**101,600,000**	**100,780,569**	**104,750,000**	**107,606,454**
Vegetation Management	10,600,000	10,600,000	10,800,000	10,800,000	11,875,000	11,870,000
Inspection & Maintenance Program	1,492,000	1,184,000	1,423,000	1,104,000	1,564,000	1,239,000

Spending Rationale	CY 2023* Proposed	CY 2024 Proposed
Customer Request/Public Requirements	20,683,000	28,357,000
Damage/Failure	11,651,000	15,878,000
Total Non-Discretionary	***32,334,000***	***44,235,000***
Asset Condition	53,193,040	61,800,000
Non-Infrastructure	1,375,000	1,289,000
System Capacity & Performance	26,586,000	25,098,250
Total Discretionary	***81,154,040***	***88,187,250***
Grid Modernization	***33,877,000***	***47,983,000***
Grand Total	**147,365,040**	**180,405,250**
Vegetation Management	10,595,000	
Inspection & Maintenance Program	2,864,000	

* 9-month Plan

APPENDIX 2

Appendix 2

Summary of CY 2023, 2024 and FY 2024 Capital Outlays By Key Driver Category and Budget Classification

RIE CY 2023 ISR PLAN 9-MONTH PROPOSED BUDGET by Spending Rationale ($000)	CY 23 RIE Initial Proposal (10-21-22)	CY 23 RIE Final Proposal (12-22-22)	CY 23 Division Proposed Adjustments	CY 23 Divison Proposed Budget
Customer Request/Public Requirement	$20,683	$20,683	$0	$20,683
Damage Failure	$11,651	$11,651	$0	$11,651
Grid Modernization Plan	$34,522	$33,877	($33,877)	$0
Subtotal Non-Discretionary Total	***$66,856***	***$66,211***	***($33,877)***	***$32,334***
Asset Condition	$59,962	$53,193	($18,000)	$35,193
Non-Infrastructure	$1,375	$1,375	$0	$1,375
System Capacity & Performance	$24,765	$26,586	($9,504)	$17,082
Subtotal Discretionary	***$86,102***	***$81,154***	***($27,504)***	***$53,650***
Grand Total	**$152,958**	**$147,365**	**($61,381)**	**$85,984**

RIE CY 2024 ISR PLAN 12-MONTH PROPOSED BUDGET by Spending Rationale ($000)	CY 24 RIE Initial Proposal (10-21-22)	CY 24 RIE Final Proposal (12-22-22)	CY 24 Division Proposed Adjustments	CY 24 Divison Proposed Budget
Customer Request/Public Requirement	$28,357	$28,357	$0	$28,357
Damage Failure	$15,878	$15,878	$0	$15,878
Grid Modernization Plan	$48,586	$47,983	($47,983)	$0
Subtotal Non-Discretionary Total	***$92,821***	***$92,218***	***($47,983)***	***$44,235***
Asset Condition	$56,152	$61,800	($15,000)	$46,800
Non-Infrastructure	$1,289	$1,289	$0	$1,289
System Capacity & Performance	$20,455	$25,098	($5,000)	$20,098
Subtotal Discretionary	***$77,896***	***$88,187***	***($20,000)***	***$68,187***
Grand Total	**$170,717**	**$180,405**	**($67,983)**	**$112,422**

RIE FY 2024 ISR PLAN 21-MONTH PROPOSED BUDGET by Spending Rationale ($000)	FY 24 RIE Initial Proposal (10-21-22)	FY 24 RIE Final Proposal (12-22-22)	FY 24 Division Proposed Adjustments	FY 24 Divison Proposed Budget
Customer Request/Public Requirement	$49,040	$49,040	$0	$49,040
Damage Failure	$27,528	$27,529	$0	$27,529
Grid Modernization Plan	$83,108	$81,860	($81,860)	$0
Subtotal Non-Discretionary Total	***$159,676***	***$158,429***	***($81,860)***	***$76,569***
Asset Condition	$116,114	$114,993	($33,000)	$81,993
Non-Infrastructure	$2,664	$2,664	$0	$2,664
System Capacity & Performance	$45,219	$51,684	($14,504)	$37,180
Subtotal Discretionary	***$163,998***	***$169,341***	***($47,504)***	***$121,837***
Grand Total	**$323,674**	**$327,770**	**($129,364)**	**$198,406**

APPENDIX 3

Appendix 3

Report Amendments of Gregory L. Booth, PE Addressing RIE's FY 2024 ISR Plan Supplemental Budget Filed January 27, 2023

On January 27, 2023, RIE filed a fiscal year Proposed FY 2024 ISR Plan Supplemental Budget for April 1, 2023 through March 31, 2024, in compliance with the Rhode Island Public Utilities Commission ruling in Docket 22-53-EL. The Supplemental Budget reflects similar spending categories as the original Proposed FY 2024 ISR Plan (21-Month Plan) dated December 22, 2022, but only includes 12 months of spend for the period of April 1, 2023 through March 31, 2024. The Company did not revise the accompanying ISR Plan document or testimony This assessment is limited to newly proposed budget levels while relying on the analysis performed in my report concerning the 21-Month Plan to inform revised adjustments.

My analysis utilizes the Company's December 22, 2022 proposed CY 2023 ISR Plan filing and the Division's associated budget adjustments as benchmarks. Because the Supplemental Budget investment period does not align with the CY 2023 ISR Plan (9 months for the period of April 1, 2023 through December 31, 2023), the Company's CY 2023 budget and the Division's recommended CY 2023 budget are scaled to 12 months for comparison. Next, RIE's Supplemental Budget for FY 2024 is indicated along with the Division's revised adjustments and revised budget for the same period. To follow the progression, a table is provided below that includes corresponding data for key spending categories.

RIE CY 2023 & Supplemental FY 2024 ISR PLANS with Division Adjustments	RIE CY 2023 Proposed Budget (scaled to 12 months) 12-22-22	Division CY 2023 Proposed Budget (scaled to 12 months)	RIE FY 2024 Supplemental Budget Proposal (12-months) 1-27-23	Division FY 2024 Revised Adjustments	Division FY 2024 Revised Proposed Budget (12-months)
Customer Request/Public Requirement	$27,577	$27,577	$27,514	-	$27,514
Damage Failure	$15,535	$15,535	$15,192	-	$15,192
Grid Modernization Plan	$45,169	$0	$45,785	($45,785)	$0
Subtotal Non-Discretionary Total	***$88,281***	***$43,112***	***$88,491***	***($45,785)***	***$42,706***
Asset Condition					
Major Projects & Area Studies	$44,797	$24,797	$34,380	($10,000)	$24,380
UG/URD	$15,345	$12,345	$11,775	-	$11,775
Recurring Projects/I&M	$10,781	$9,781	$10,270	-	$10,270
Total Asset Condition	**$70,924**	**$46,924**	**$56,426**	**($10,000)**	**$46,426**
Non-Infrastructure	$1,833	$1,833	$1,700	-	$1,700
System Capacity & Performance					
Major Projects & Area Studies	$12,427	$12,427	$10,772	-	$10,772
Nasonville	$2,549	$2,549	$1,912	-	$1,912
Mainline Reclosers	$12,672	$0	$9,504	($9,504)	$0
Other	$7,800	$7,800	$7,514	-	$7,514
Total System Capacity	**$35,448**	**$22,776**	**$29,701**	**($9,504)**	**$20,197**
Subtotal Discretionary Total	***$108,205***	***$71,533***	***$87,827***	***($19,504)***	***$68,323***
Grand Total	**$196,487**	**$114,645**	**$176,318**	**($65,289)**	**$111,029**

RIE put forth a FY 2024 ISR Plan of $176 million as compared to the CY 2023 proposal of $197 million (scaled to 12 months). This compares to the Division's recommended budgets of $111 million and $115 million, respectively. Overall, RIE effectively proposed a $20 million reduction in annual spend in its Supplemental Budget, driven mostly by lower budgets in the Asset Condition category (Major Projects at $10 million and UG/URD projects at $3.5 million). The Company continued to include significant spend, nearing $46 million, for its Grid Modernization Plan (GMP). RIE included Mainline Reclosers but did not increase the level of spend which indicates that the Company had planned, and continues to expect, to expend $9.5 million whether the ISR Plan covers a 9- or 12-month period.

The Company's FY 2024 Supplemental Budget remains over $60 million above the Division's recommended ISR Plan level. The gap of consensus is mainly attributed to RIE's $45.8 million GMP proposed spend which the Division has consistently and strongly opposed during

discussions with the Company. As indicated in my report on the 21-Month Plan, the Division advised RIE that before introducing spend for new programs within an ISR Plan, the Company must provide requisite justification for the Division to examine, which did not occur. In addition, GMP is a unique and separate program that would be subject to a Commission proceeding for approval, and Division concurrence with associated ISR Plan spend would be contingent on the outcome of that proceeding. Although the Company eventually filed its GMP under Docket 22-56-EL, the proceeding is in the very preliminary stages. The Division continues to recommend that all proposed GMP spend be removed from the FY 2024 ISR Plan, which amounts to a $45.8 million adjustment. The Division respectfully refers the parties to Docket No. 4780 and the fact it was combined with Docket No. 4770 (rate case) for a full assessment and regulatory process through establishing grid modernization program initial funding. To begin major funding in the FY 2024 ISR Plan before Docket 22-56-EL has proceeded to a Commission Order would be a major deviation from prior practice, and would not provide clear understanding of how the grid modernization plan and programs would progress.

My report also addressed concerns with RIE's approach to adding hundreds of reclosers on the system identified as Mainline Reclosers or Advanced Reclosers in the GMP. Both programs are reliability driven yet they are uncoordinated. Specifically, the Mainline Reclosers is a new program that RIE proposed with no explanation of issues that would drive the need, system evaluation, data, or analysis. The support required by the Division in evaluating new capital programs, including a benefit-cost analysis, was never provided. I ultimately recommended that the Company should propose recloser installations in a system-wide coordinated fashion, fully justified, and supported by communication and protective coordination studies in advance of implementation. Anything less falls far below the standard of care in the industry and is imprudent.

Furthermore, the RIE unsupported contention that SAIFI will be improved based on PPL statistics has two significant flaws: 1) SAIFI may not show an improvement level justifying the cost; and 2) SAIDI most likely will be adversely impacted, particularly since RIE uses a fuse sacrifice scheme and PPL uses a fuse save scheme. For these reasons, the Division continues to recommend removing Mainline Reclosers from the ISR Plan until the Company satisfies these conditions. This results in a $9.5 million reduction to RIE's proposed FY 2024 ISR Plan budget.

The Company continued to propose substantial spend for Major Projects in the Asset Condition category. Although the budget appears to be reduced from the CY 2023 proposal, it exceeds what I believe to be an acceptable level of discretionary spend. As discussed in my report, Major Projects are identified in Area Studies and ultimately identified for implementation in the Company's Long-Range Plan (LRP). RIE has not produced an acceptable LRP that relies on project criticality, risk assessments, or any other ranking mechanism to validate project sequencing and associated spend. Instead, the Company has adopted a philosophy to "expeditiously" complete Area Study projects which is placing upward pressure on annual ISR Plan budgets, but without adequate justification. Accordingly, the Division recommends a $10 million reduction in the Major Project Asset Condition category which aligns with historical budgets that have averaged $21 million over the past four years.

Regarding smaller adjustments, the Division no longer requests a reduction to the UG/URD spending category since the Company is now proposing $12 million in spend over 12 months as opposed to the CY 2023 budget of $12 million over 9 months. The Division recommends removing O&M associated with Grid Modernization, or $1.6 million (see Section 4 - Supplemental, Chart 2 Supplemental Budget). Lastly, the Division does not recommend adjustments to Vegetation

Management which RIE forecasts at $14 million in FY 2024 as compared to the previous proposed $14 million in the CY 2023 ISR Plan (scaled to 12 months). This support for the vegetation management spending is conditioned on RIE documenting the reliability improvement and comparing it to the RIE contention it will achieve a 15 to 18 percent improvement in SAIFI with the new vegetation management program.

In summary, the Division recommends a $65.3 million reduction to RIE's proposed FY 2024 ISR Plan Supplemental Budget filed on January 27, 2023, for a total proposed capital budget of $111 million comprised of Customer Request/Public Requirement, Damage Failure, Asset Condition, Non-Infrastructure, and System Capacity & Performance spending categories. The Division recommends removing all GMP related spend, comprised of $45.8 million in capital and $1.6 million in O&M. This assessment relates only to RIE's Proposed FY 2024 ISR Plan Supplemental Budget and is not intended to supersede my report analysis, findings, or recommendations otherwise.

CURRICULUM VITAE OF GREGORY L. BOOTH

February 2023

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.

PROFESSIONAL EDUCATION:

NORTH CAROLINA STATE UNIVERSITY; Raleigh NC, Bachelor of Science, Electrical Engineering, 1969

PROFESSIONAL HONORS:

Inducted into North Carolina State University Department of Electrical and Computer Engineering Alumni Hall of Fame in November 2016.

REGISTRATIONS:

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 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.

1994-2004
President
Booth & Associates

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.

2005-July 2019
President
PowerServices, Inc.

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.

2004-Present
President
Gregory L. Booth, PLLC

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.

WORK AND EXPERTISE:

ELECTRIC UTILITIES:
(more than 300 clients)

- 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.

- 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.

GENERATION DESIGN / FAILURE ANALYSES:

- 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.

TELECOMMUNICATION: UTILITIES:

- 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.

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:

- 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

INDUSTRIAL/ELECTRICAL ENGINEERING:

- 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).

INSTRUCTIONAL SEMINARS AND TEXT:

- 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.

TESTIMONY AS AN EXPERT:

- 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

PROFESSIONAL ORGANIZATIONS:

a. National Society of Professional Engineers (NSPE)
b. Professional Engineers in Private Practice (PEPP)
c. National Council of Examiners for Engineering & Surveying (NCEES)
d. Professional Engineers of North Carolina (PENC)
e. National Fire Protection Association (NFPA)
f. Associate Member of the NRECA
g. NRECA Cooperative Network Advisory Committee (NRECA-CRN)
h. The Institute of Electrical and Electronics Engineers (IEEE) (Distribution sub-committee members on reliability)
i. American Standards and Testing Materials Association (ASTM)
j. Occupational Safety and Health Administration (OSHA) Certification
k. American Public Power Association (APPA)
l. American National Standards Institute (ANSI)

FEDERAL & STATE REGULATORY CASE LIST

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

Colorado Public Utility Regulatory Authority
2015
The City of Lamar, Colorado, Colorado Mills LLC, Palace Holdings, LLC, Ports of Plains Travel Plaza and Jeanna Dewitt
2014CV30031

Commonwealth of Virginia State Corporation Commission
1976
Approximately 1976 - 1981 A&N Electric Cooperative Retail Rates Cases
(WT) (HE)

2007
Delmarva Power & Light System Acquisition Purchase by A & N Electric Cooperative, Post Office Box 290, 21275 Cooperative Way, Tasley, VA 23441 and Old Dominion Electric Cooperative, 4201 Dominion Boulevard, Glen Allen, VA 23060
Case Nos. PUE-2007-00060, 00061, 00062, 00063, and 00065
(WT) (HE)

2009
Potomac Edison/Allegheny Power System Acquisition Purchase by Shenandoah Valley Electric Cooperative, 147 Dinkel Ave., Hwy 257, Mt. Crawford, VA 22841
Case No. PUE-2009-00101
(WT) (HE)

2009
Potomac Edison/Allegheny Power System Acquisition Purchase by Rappahannock Electric Cooperative, 247 Industrial Court, Fredericksburg, VA 22408
Case No. PUE-2009-0010
(WT) (HE)

2011
Virginia, Maryland & Delaware Association of Electric Cooperatives Commonwealth of Virginia at the relation of the State Corporation Commission in the Matter of Determining Appropriate Regulation of Pole Attachments and Cost Sharing in Virginia
Case No. PUE-2011-00033
(WT) (HE)

2013
Northern Virginia Electric Cooperative Pole Attachment Dispute with ComCast
PUE-2013-00055
(WT) (HE)

2016
A&N Eastern Shore of Virginia Broadband Authority

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

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
(HE)

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
(HE)

2020
Phases II and III and IV Subdockets RE02 thruRE09 and RE11 Regarding AMI, Battery Storage, Electric Vehicles, Innovative Technology Applications & Programs, Non-Wires Alternatives, Resilience & Reliability, Clean and Renewable Energy, Interconnection Standards & Practices, Rate Design, RE11
17-12-03

2020
PURA Implementation of Section 3 of Public Act 19-35, Renewable Energy Tariffs and Procurement Plans
20-07-01

2021
Annual Review of Rate Adjustment Mechanism of United Illuminating Company
21-08-02

2021
Annual Non-Residential Renewable Energy Tariff Program Review – Year 1
21-08-03

2021
Annual Review of Storage Program – Year 1
21-08-05

2021
Annual Review of Electric Vehicle Charging Program – Year 1
21-08-06

2021
Application To Install and Operate an Electric Submetering System at 1 Long Wharf Drive, New Haven, CT
21-08-07

2021
Petition to Establish a Docket Pertaining to Public Act 21-162, An Act Concerning the Solicitation of New Fuel Cell Electricity Generation Projects
21-08-08

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

2021
Application of AEP Onsite Partners, LLC for Qualification of 0 High Street, Willimantic, CT as a Class I Renewable Energy Source
21-08-11

2021
Investigation into Medium and Heavy-Duty Electric Vehicle Charging
21-09-17

2022
Public Act 22-55, Energy Storage Systems and Electric Distribution on System Reliability
22-06-05

2022
Application of The United Illuminating Company to Amend Its Rate Schedule
22-08-08

Delaware Public Service Commission
1976
Approximately 1976 – 1985 Delaware Electric Cooperative, Inc., Retail Rate Case and Reliability Cases
(WT) (HE)

2018
Delaware Distribution Planning Process Phase II
18-0935
(Report)

2018
Delaware Distribution Planning Process, Phase I
18-0935
(Report)

2018
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
(Report)

2020
Delaware Distribution Planning Process Phase III
18-0935
(Report)

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
(Report)

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

2020
Application of Delmarva Power & Light Company for an Increase in Electric Base Rates
20-0149
(Report)

2020
Consecutive Estimation Program
20-0226

2022
2022-2024 Electric Infrastructure, Safety and Reliability Plan
22-0320
(Report)

2022
2023-2032 Long Range Distribution Plan
22-0506

2022
2022 Delmarva Power Rate Case
Docket No. 22-0897-04

Federal Energy Regulatory Commission
Public Works Commission of the City of Fayetteville, NC v. Carolina Power & Light Company
ER76-, ER77-, ER78, ER81-344, ER84-
(WT) (HE)

2000
North Carolina Electric Membership Corporation v. Duke Energy Corporation and Duke Electric Transmission
ER01-282-000 and ER01-283-000
(WT) (HE)

2000
North Carolina Electric Membership Corporation v. Virginia Electric Power Company dba North Carolina Power
EL90-26-00-000
(WT) (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 EC15-157-000
(Report)

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

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
(WT) (HE)

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
(HE)

Georgia Public Service Commission
2020
Notice of Proposed Rulemaking to Adopt Rule 515-12-1-.36, Pole Attachment Agreements
Docket No. 43453
(WT) (HE)

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
(WT) (HE)

2017
Investigation into the Designation of Non-Transmission Alternative (NTA) Coordinator on behalf of Maine Office of Public Advocate
Docket No. 2016-00049
(WT) (HE)

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
(WT) (HE)

Public Service Commission of Maryland
1976
1976 Approximately 1976 – 1985 A&N Electric Cooperative Retail Rate Cases
(WT) (HE)

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
(WT) (HE)

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

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
(WT) (HE)

2013
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 Assessment
D.P.U. 14-01
(WT) (HE)

2014
Massachusetts Attorney General's Office Western Massachusetts Electric Company, Review of Storm Recovery Reserve Cost Adjustment "SRRCA"
D.P.U. 13-135
(WT) (HE)

2016
Massachusetts Attorney General's Office MA Elec. Co. and Nantucket Elec. Co. d/b/a National Grid, Fitchburg Gas and Elec. Light Co. d/a/a Unitil and NSTAR Elec. Co. d/b/a Eversource for Approval by the DPU of their Grid Modernization Plan
DPU 15-120, 15-121, 15-122/15-123
(WT) (HE)

2017
Massachusetts Attorney General's Office Nstar Electric Company and Western Massachusetts Electric Company d/b/a Eversource Energy Petition for Approval of a Performance-Based Ratemaking Mechanism and General Distribution Revenue Change
DPU 17-05
(WT) (HE)

2017
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
(WT) (HE)

2018
Massachusetts Attorney General's Office Massachusetts Eversource Performance Based Ratemaking Mechanism Performance Metrics
DPU 18-50

2018

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

Massachusetts Attorney General's Office Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid Storm Cost Recovery
DPU 18-94

2019
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)

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
1978
Approximately 1978 - 1985 Sussex Rural Electric Cooperative Retail Rate Cases
(WT) (HE)

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
(WT) (HE)

2015
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
(WT)

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
1990
Delora Dennis, et. al. v. Haywood EMC
E-7, Sub 474, EC-10, Sub 37, E013, Sub 151
(WT) (HE)

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

1990
In Approximately 1990's Larry Eaves, et. al. v. Town of Clayton
(WT) (HE)

1990
In approximately 1990's Poly-Loc v. Town of Tarboro
(WT) (HE)

2001
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, 255
(WT) (HE)

2004
John Wardlaw, et. al. Interveners v. Progress Energy Carolinas
Docket No. E-2, Sub 855
(WT) (HE)

2011
Frontier Communications of the Carolinas, Inc. v. Blue Ridge Mountain Electric Membership Corporation
11-CVS-17175

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
(WT) (HE)

2017
Blue Ridge Electric Membership Corporation v. Charter
Docket No EC-23, SUB 50
(WT) (HE)

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)

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

2006
Investigation regarding Pennsylvania Rural Electric Association / Allegheny Electric Cooperative and its Member Cooperatives Rates
Docket Nos. R-00061366, R-0061367, et. al.
(WT) (HE)

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
(WT) (HE)

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) (HE)

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.)

Rhode Island Public Utilities Commission
1997
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)

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

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
(WT) (HE)

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
(WT) (HE)

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
(WT) (HE)

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

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

Commission's Investigation Relating to Stray and Contact Voltage on behalf of Rhode Island Division of Public Utilities and Carriers
Docket No. 4237
(Annual Reports 2012 through 2022)

2012
Rhode Island Public Utilities Commission Interstate Reliability Assessment on behalf of Rhode Island Division of Public Utilities and Carriers
Docket No. 4360
(WT) (HE)

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
(WT) (HE)

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
(WT) (HE)

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

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

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
(WT) (HE)

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
National Grid Electric Infrastructure, Safety and Reliability Plan FY 2020 on behalf of Rhode Island Division of Public Utilities and Carriers
Docket No. 4915
(WT) (HE)

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

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 Principles to Guide the Development and Review of Performance Incentive Mechanisms on behalf of Rhode Island Division of Public Utilities and Carriers
Docket No. 4943

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

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
(WT) (HE)

2020
RIDPUC Ngrid Performance Based Incentive Mechanism and Scorecard Metrics
Docket #4770

2020
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 #4780
(WT) (HE)

2021
Petition of PPL Corporation, PPL Rhode Island Holdings, LLC, National Grid USA and The Narragansett Electric Company for Authority to Transfer Ownership of the Narragansett Electric Company to PPL Rhode Island Holdings, LLC and related approvals.
D-21-09
(WT) (HE)

2021
National Grid Standards for Connecting Distributed Generation - Docket # 5077
Docket # 5077

2021
Rhode Island National Grid AMF 2023 Docket No. 5113 - The Narragansett Electric Co. D/b/a National Grid Updated Advanced Metering Functionality Business Case
Docket No. 5113

2021
Rhode Island The Narragansett Electric Co. D/b/a National Grid - Grid Modernization Plan
Docket No. 5114

2022
National Grid Infrastructure, Safety and Reliability Plan FY 2022 on behalf of RIDPUC and Carriers - Docket # 5098
(WT) (HE)

2022
National Grid Infrastructure, Safety and Reliability Plan FY 2023 on behalf of RIDPUC and Carriers - Docket #5209
(WT) (HE)

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

2022
Revity Energy LLC Petition for Declaratory Judgment regarding the Rights and Obligations of an Interconnection
Docket # 5235
(WT)

2022
Rhode Island Energy Automated Metering Infrastructure 2022 The Narragansett Electric Co. d/b/a Rhode Island Energy's Advanced Metering Functionality ("AMF") Business Case
Docket No. 22-49-EL

2022
Rhode Island Energy FY2023-2024 Infrastructure Safety and Reliability Plan 2022 Docket No. 22-53-EL The Narragansett Electric Co. d/b/a Rhode Island Energy - FY 2024 Electric Infrastructure, Safety and Reliability (ISR) Plan
Docket No. 22-53-EL

2022
Rhode Island Energy Grid Modernization Plan 2022 Docket No. 22-56-EL The Narragansett Electric Co. d/b/a Rhode Island Energy - Grid Modernization Plan
Docket No. 22-56-EL

The South Carolina Office of Regulatory Staff
2022
2022 Spectrum Southeast, LLC, Complainant v. York Electric Cooperative, Incorporated, Respondent, Petition to Determine Just and Reasonable Terms and Conditions for Pole Attachment Agreement Pursuant to S.C. Code Ann. § 58-9-3030
Case # 2022-188-EC
(WT) (HE)

CURRENT & HISTORICAL CLIENT LISTS

Partial List of Historical Utility Clients

Client Name	City	State
4 CES/CEEC	Seymour Johnson AFB	NC
A&N Electric Cooperative	Parksley	VA
ACRES International Corporation	Grand Forks	ND
Adams Electric Cooperative	Gettysburg	PA
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	PA
Alleghany Power Energy	Greensburg	PA
Altahama Electric Membership Corporation	Lyons	GA
Alternative Energy Corporation	RTP	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		TX
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	PA

Client Name	City	State
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	State
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	CT
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	City	State
LaGrange, Town of	LaGrange	NC
Laurinburg, City of	Laurinburg	NC
Lee County Electric Cooperative		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		PA
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	ME
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	PA
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	State
Northwest Public Power Association	Vancouver	WA
Northwestern Rural Electric Cooperative Association	Cambridge Springs	PA
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	PA
Perkasie, Borough of	Perkasie	PA
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

Client Name	City	State
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	PA
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	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	PA
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	City	State
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	PA
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

Partial List of Historical Industrial/Commercial Clients

Client Name	City	State
Action Sensors, Inc.	Wendell	NC
Alcoa Fujikura, Ltd.	Spartanburg	SC
Alliance Development Group, LLC		VA
Atlantic Power Generation	Charlotte	NC
Barnhill Contracting Company	Tarboro	NC
Beckwith Power Systems	North Versailles	PA
Biltmore Dairy Farms, Inc.	Asheville	NC
Black & Decker	Tarboro	NC
Bridgestone/Firestone (BFS)	Wilson	NC
Burroughs Wellcome Company	RTP	NC
CAA Engineers, Inc.		
Calpine Operations Services (Calpine Power)	Houston	TX
Caswell Center	Kinston	NC
Centura Bank	Rocky Mount	NC
Centex Construction	Atlanta	GA
Charter Communications	Surf City	NC
Cherry Hospital – DHR	Goldsboro	NC
Clapp Research Associates	Raleigh	NC
Clark Substations, LLC	Calera	AL
CNA Insurance Companies	Rockville	MD
Cornice Engineering, Inc.	Pagosa Springs	CO
Crawford & Company	Raleigh	NC
Data Comlink, Inc.	Sandersville	GA
Design Dimensions, Inc.	Raleigh	NC
Dolan and Dolan	Newton	NJ
Dupaco	Kinston	NC
Drucker & Falk	Raleigh	NC
E&R Construction	Kinston	NC
East Coast Power & Lighting		
EMC Technologies	Raleigh	NC
Empire of Carolina	Tarboro	NC
Exelon Business Services		
Frigidaire	Kinston	NC
Fontaine Fifth Wheel	Birmingham	AL
Fonville-Morrisey	Raleigh	NC
General Electric	Fairfield	CT
Glenoit Industries	Tarboro	NC
Green Property Advisors, LLC		
Goldsboro, City of	Goldsboro	NC
Cherry Hospital DHR	Goldsboro	NC
Gregory Poole Power Systems	Raleigh	NC
Harris Development Corp.	Wilson	NC
Hesco, Incorporated	Smithfield	NC
High Point Regional Hospital	High Point	NC

Client Name	City	State
Homestead, LLC	Hot Springs	VA
Honeywell	Fort Bragg	NC
Infrastructure Consulting & Engineering		
Jag Management, Inc.	Raleigh	NC
KCI Technologies, Inc.	Raleigh	NC
Kelly Springfield Tire Co.	Fayetteville	NC
Kinston City Hall	Kinston	NC
Larry A. Blattenberger, Inc.	Martinsburg	PA
Lenoir Memorial Hospital	Kinston	NC
Maida Vale, LLC	Raleigh	NC
National Fruit Product Company		VA
National Spinning Co., Inc.	Washington	NC
NC Department of Human Resources	Raleigh	NC
NC Department of Transportation	Raleigh	NC
NC Division of Mental Health	Raleigh	NC
NC Licensing Board – General Contractor	Raleigh	NC
NC School of Deaf	Raleigh	NC
NC State Construction Office	Raleigh	NC
New Hanover County	Wilmington	NC
North Hills PBX	Raleigh	NC
Nucor Steel	Charlotte	NC
Pitt County Memorial Hospital	Greensville	NC
Power Delivery Associates	Smyrna	GA
PS & W Engineering	Cary	NC
Rail-Veyor Global Technologies, Inc.		
Raleigh, City of	Raleigh	NC
Richardson-Wayland Electrical Company		
Rocky Mount City Hall	Rocky Mount	NC
Rural Green Power, LLC		
Sara Lee Corporation	Tarboro	NC
Stanton Barton, LLC		
Still Waters Engineering		
T&D Solutions		
Talisman Partners, Inc. (now Earthtech)	Englewood	CO
Tantalus Systems, Corp.	Burnaby, BC	Canada
Tarboro Elementary School	Tarboro	NC
Tarboro High School	Tarboro	NC
Technical Associates, Inc.		
Teligent, Inc.	Alpharetta	GA
Texfi Industries	Fayetteville	NC
The West Co.	Kinston	NC
Transco	Charlottesville	VA
US Postal Services (GSA)	Raleigh	NC
Utility Engineering Services	Jackson	TN
Volvo Data North America	Greensboro	NC
West Company	Kinston	NC

Client Name	City	State
Williams Energy Group	Tulsa	OK
Zenith Controls, Inc.	Chicago	IL

List of Historical Law Firm Clients

Law Firms	Firm Name	Address - City	Address- State
Abrams & Abrams, P.A., Raleigh, NC	Abrams & Abrams, P.A.	Raleigh	NC
Adams, Hendon, Carson, Crow & Saenger, P.A., ,	Adams, Hendon, Carson, Crow & Saenger, P.A.		
Allegheny Electric Cooperative, Inc., Harrisburg, PA	Allegheny Electric Cooperative, Inc.	Harrisburg	PA
Allen & Gooch, Lafayette, LA	Allen & Gooch	Lafayette	LA
Andrews Law Group, Tampa, FL	Andrews Law Group	Tampa	FL
Arnold & Itkin LLP, Houston, TX	Arnold & Itkin LLP	Houston	TX
Bailey & Dixon LLP, Raleigh, NC	Bailey & Dixon LLP	Raleigh	NC
Baker & Abraham, PC, Boston, MA	Baker & Abraham, PC	Boston	MA
Baker Law Firm, PA, Wilmington, NC	Baker Law Firm, PA	Wilmington	NC
Baker, Jenkins, Jones & Daly PA, Ahoskie, NC	Baker, Jenkins, Jones & Daly PA	Ahoskie	NC
Baker, Jenkins, Jones, Murray, Askew & Carter, PA, ,	Baker, Jenkins, Jones, Murray, Askew & Carter, PA		
Balch & Bingham LLP, Birmingham, AL	Balch & Bingham LLP	Birmingham	AL
Barnes Law Firm, LLC, Kansas City, MO	Barnes Law Firm, LLC	Kansas City	MO
Barr, Murman, Tonelli, Slother & Sleet, Tampa, FL	Barr, Murman, Tonelli, Slother & Sleet	Tampa	FL
Bartimus, Frickleton, Robertson & Goza, P.C., Leawood, KS	Bartimus, Frickleton, Robertson & Goza, P.C.	Leawood	KS
Battle, Winslow, Scott & Wiley, P.A., Rocky Mount, NC	Battle, Winslow, Scott & Wiley, P.A.	Rocky Mount	NC
Beasley Allen, Montgomery, AL	Beasley Allen	Montgomery	AL
Beaver, Holt, Richardson, Sternlicht, Burge & Glazier, PA, Fayetteville, NC	Beaver, Holt, Richardson, Sternlicht, Burge & Glazier, PA	Fayetteville	NC
Berkley Net Underwriters, LLC, Woodbridge, VA	Berkley Net Underwriters, LLC	Woodbridge	VA
Berman & Simmons, Lewiston, ME	Berman & Simmons	Lewiston	ME

Lookup to Law Firms	Firm Name	Address - City	Address- State
Berman | Sobin | Gross | Feldman & Darby, LLP, Gaithersburg, MD	Berman | Sobin | Gross | Feldman & Darby, LLP	Gaithersburg	MD
Beskind and Rudolph, P.A., Chapel Hill, NC	Beskind and Rudolph, P.A.	Chapel Hill	NC
Bordas, Bordas & Jividen, Wheeling, WV	Bordas, Bordas & Jividen	Wheeling	WV
Brault Palmer Steinhilver & Robbins LLP, Fairfax, VA	Brault Palmer Steinhilver & Robbins LLP	Fairfax	VA
Breit Drescher Imprevento & Walker, Virginia Beach, VA	Breit Drescher Imprevento & Walker	Virginia Beach	VA
Bretz & Young, L.L.C, Hutchinson, KS	Bretz & Young, L.L.C	Hutchinson	KS
Brian G. Miller Co.,L.P.A., Columbus, OH	Brian G. Miller Co.,L.P.A.	Columbus	OH
Britcher, Leone and Roth, LLC, Glen Rock, NJ	Britcher, Leone and Roth, LLC	Glen Rock	NJ
Brown, Crump, Vanore & Tierney, LLP, Raleigh, NC	Brown, Crump, Vanore & Tierney, LLP	Raleigh	NC
Brunswick Electric Membership Corporation, Supply, NC	Brunswick Electric Membership Corporation	Supply	NC
Buck, Danaher, Ryan & McGlenn, Elmira, NY	Buck, Danaher, Ryan & McGlenn	Elmira	NY
Campbell, Campbell Edwards & Conroy, Boston, MA	Campbell, Campbell Edwards & Conroy	Boston	MA
Carey Leisure & Neal, Clearwater, FL	Carey Leisure & Neal	Clearwater	FL
Carolina Adjusters, ,	Carolina Adjusters		
Carolina Power & Light Company, Raleigh, NC	Carolina Power & Light Company	Raleigh	NC
Chappell, Smith and Arden, Columbia, SC	Chappell, Smith and Arden	Columbia	SC
City of Monroe, ,	City of Monroe		
Civille & Tang, PLLC, Hagatna, GU	Civille & Tang, PLLC	Hagatna	GU
Cohen, Placitella & Roth, Philadelphia, PA	Cohen, Placitella & Roth	Philadelphia	PA
Coleman, Bernholz, Dickerson, Bernholz, Gledhill, Hargrave, Chapel Hill, NC	Coleman, Bernholz, Dickerson, Bernholz, Gledhill, Hargrave	Chapel Hill	NC
Colombo Law, Columbus, OH	Colombo Law	Columbus	OH

Lookup to Law Firms	Firm Name	Address - City	Address- State
Connecticut Office of Consumer Counsel (OCC), New Britain, CT	Connecticut Office of Consumer Counsel (OCC)	New Britain	CT
Copeland, Cook, Taylor & Bush, PA, Ridgeland, MS	Copeland, Cook, Taylor & Bush, PA	Ridgeland	MS
Couch & Taibi, Durham, NC	Couch & Taibi	Durham	NC
Cozen O' Connor, Charlotte, NC	Cozen O' Connor	Charlotte	NC
Cranfill Sumner & Hartzog LLP, Charlotte, NC	Cranfill Sumner & Hartzog LLP	Charlotte	NC
Cranfill Sumner & Hartzog, LLP, Raleigh, NC	Cranfill Sumner & Hartzog, LLP	Raleigh	NC
Crisp, Davis, Page & Currin, LLP, Raleigh, NC	Crisp, Davis, Page & Currin, LLP	Raleigh	NC
Crisp, Page & Currin, LLP, Raleigh, NC	Crisp, Page & Currin, LLP	Raleigh	NC
Daniel & Daniel, ,	Daniel & Daniel		
Daniel, Medley & Kirby, P.C., Danville, VA	Daniel, Medley & Kirby, P.C.	Danville	VA
David A. Vukelja, PA, Ormond Beach, FL	David A. Vukelja, PA	Ormond Beach	FL
Davis & Lumsden PA, Beaufort, NC	Davis & Lumsden PA	Beaufort	NC
Dean Law Firm, Houston, TX	Dean Law Firm	Houston	TX
Delaware County Electric Cooperative, Inc., ,	Delaware County Electric Cooperative, Inc.		
Delaware Division of the Public Advocate, Dover, DE	Delaware Division of the Public Advocate	Dover	DE
Delaware Electric Cooperative, Inc., Greenwood, DE	Delaware Electric Cooperative, Inc.	Greenwood	DE
DeVore & Acton, PA, Charlotte, NC	DeVore & Acton, PA	Charlotte	NC
Devore, Acton & Stafford, PA, Charlotte, NC	Devore, Acton & Stafford, PA	Charlotte	NC
Dickie, McCamey & Chilcote, P.C., Charlotte, NC	Dickie, McCamey & Chilcote, P.C.	Charlotte	NC
Dollar Burns & Becker, Kansas City, MO	Dollar Burns & Becker	Kansas City	MO
Dugan, Brinkmann, Maginnis & Pace, Philadelphia, PA	Dugan, Brinkmann, Maginnis & Pace	Philadelphia	PA
Duke Energy Corporation, Charlotte, NC	Duke Energy Corporation	Charlotte	NC

Lookup to Law Firms	Firm Name	Address - City	Address- State
Duke Energy Progress, Raleigh, NC	Duke Energy Progress	Raleigh	NC
Dull & Heaney, LLC, Clinton, MO	Dull & Heaney, LLC	Clinton	MO
Edelman & Thompson, LLC, Kansas City, MO	Edelman & Thompson, LLC	Kansas City	MO
Edmonds Cole Law Firm, PC, Oklahoma City, OK	Edmonds Cole Law Firm, PC	Oklahoma City	OK
Edward M. Ricci Law Firm, West Palm Beach, FL	Edward M. Ricci Law Firm	West Palm Beach	FL
Edwards, Kirby & Holt, LLP, Raleigh, NC	Edwards, Kirby & Holt, LLP	Raleigh	NC
Electric Insurance Company, Beverly, MA	Electric Insurance Company	Beverly	MA
EnergyUnited, ,	EnergyUnited		
Eppes & Plumblee, P.A., Greenville, SC	Eppes & Plumblee, P.A.	Greenville	SC
Ervin & Gates, Charlotte, NC	Ervin & Gates	Charlotte	NC
Faulkner & Boyce, PC, New London, CT	Faulkner & Boyce, PC	New London	CT
Federal Reserve Bank of Richmond, VA, ,	Federal Reserve Bank of Richmond, VA		
Federated Rural Electric Insurance Corporation, ,	Federated Rural Electric Insurance Corporation		
Federated Rural Insurance Corporation, ,	Federated Rural Insurance Corporation		
Ferderigos & Lambe, Winter Park, FL	Ferderigos & Lambe	Winter Park	FL
Fields Law Firm, Kansas City, MO	Fields Law Firm	Kansas City	MO
Fiore, Krause, Crogan & Lopez, Owings Mills, MD	Fiore, Krause, Crogan & Lopez	Owings Mills	MD
Forensic Engineering, Inc., ,	Forensic Engineering, Inc.		
Frank M. Wilson, PC, ,	Frank M. Wilson, PC		
Freeman & Freeman, PC, Rockville, MD	Freeman & Freeman, PC	Rockville	MD
Freidman, Sissman & Heaton, Memphis, TN	Freidman, Sissman & Heaton	Memphis	TN
French Broad EMC, Marshall, NC	French Broad EMC	Marshall	NC

Lookup to Law Firms	Firm Name	Address - City	Address- State
Friday & Cox, LLC, Pittsburgh, PA	Friday & Cox, LLC	Pittsburgh	PA
Friday, Eldredge & Clark, Little Rock, AZ	Friday, Eldredge & Clark	Little Rock	AZ
Frohilich, Gordon & Beason Law Firm, Port Charles, FL	Frohilich, Gordon & Beason Law Firm	Port Charles	FL
Gallivan, White & Boyd, P.A., Greenville, SC	Gallivan, White & Boyd, P.A.	Greenville	SC
Gary Harris Attorneys At Law, Orlando, FL	Gary Harris Attorneys At Law	Orlando	FL
Glascock, Gardy & Salvage, Suffolk, VA	Glascock, Gardy & Salvage	Suffolk	VA
Godin Geretty & Puntillo, Kenosha, WI	Godin Geretty & Puntillo	Kenosha	WI
Godwin, Morris, Laurenzi & Bloomfield, Memphis, TN	Godwin, Morris, Laurenzi & Bloomfield	Memphis	TN
Gough, Skipworth, Summers, Eves & Travett, Rochester, NY	Gough, Skipworth, Summers, Eves & Travett	Rochester	NY
Granger, Santry, Mitchell & Heath PA, Tallahassee, FL	Granger, Santry, Mitchell & Heath PA	Tallahassee	FL
Grossman, Roth & Partridge, Sarasota, FL	Grossman, Roth & Partridge	Sarasota	FL
Habush, Habush and Rottier, Milwaukee, WI	Habush, Habush and Rottier	Milwaukee	WI
Habush, Habush, Davis & Rottier, SC, Rhinelander, WI	Habush, Habush, Davis & Rottier, SC	Rhinelander	WI
Halifax Electric Membership Corporation, Enfield, NC	Halifax Electric Membership Corporation	Enfield	NC
Hall & Bates, San Antonia, TX	Hall & Bates	San Antonia	TX
Hall Ansley, P.C., Springfield, MO	Hall Ansley, P.C.	Springfield	MO
Harrison, White, Smtih & Coggins, P.C., Spartanburg, SC	Harrison, White, Smtih & Coggins, P.C.	Spartanburg	SC
Haynes Electric Utility Company, ,	Haynes Electric Utility Company		
Haynsworth Sinkler Boyd, P.A., Greenville, SC	Haynsworth Sinkler Boyd, P.A.	Greenville	SC
Hedrick & Blackwell, LLP, Wilmington, NC	Hedrick & Blackwell, LLP	Wilmington	NC
Hedrick, Eatman, Gardner & Kincheloe, ,	Hedrick, Eatman, Gardner & Kincheloe		

Lookup to Law Firms	Firm Name	Address - City	Address- State
Herzfeld & Rubin, P.C., New York, NY	Herzfeld & Rubin, P.C.	New York	NY
Hogue, Hill, Jones, Nash & Lynch, Wilmington, NC	Hogue, Hill, Jones, Nash & Lynch	Wilmington	NC
Holden & Carr, Tulsa, OK	Holden & Carr	Tulsa	OK
Holt Sherlin LLP, ,	Holt Sherlin LLP		
Hoover Penrod, PLC, Harrisonburg, Virgnia	Hoover Penrod, PLC	Harrisonburg	Virgnia
Hutchens Law Firm, Fayetteville, NC	Hutchens Law Firm	Fayetteville	NC
Hux, Livermon & Armstrong, LLP, Enfield, NC	Hux, Livermon & Armstrong, LLP	Enfield	NC
Irigonegaray & Associates, Topeka, KS	Irigonegaray & Associates	Topeka	KS
Jacquart & Lowe, S.C., Milwaukee, WI	Jacquart & Lowe, S.C.	Milwaukee	WI
James McElroy & Diehl, P.A., Charlotte, NC	James McElroy & Diehl, P.A.	Charlotte	NC
Jensen, McGrath, & Podgorny, PA, Research Triangle Park, NC	Jensen, McGrath, & Podgorny, PA	Research Triangle Park	NC
Jernigan Law Firm, Raleigh, NC	Jernigan Law Firm	Raleigh	NC
Joel H. Holt, Esq., PC, Christiansted, VI	Joel H. Holt, Esq., PC	Christiansted	VI
John Gehlhausen Attorney at Law, Lamar, CO	John Gehlhausen Attorney at Law	Lamar	CO
Johnson & Lambeth, Wilmington, NC	Johnson & Lambeth	Wilmington	NC
Johnson & Ward, Atlanta, GA	Johnson & Ward	Atlanta	GA
Jose G. Rodriguez, PA, West Palm Beach, FL	Jose G. Rodriguez, PA	West Palm Beach	FL
Kaplan, Gilpin & Associates, LLC, Charlotte, NC	Kaplan, Gilpin & Associates, LLC	Charlotte	NC
Kassel Law, Columbia, SC	Kassel Law	Columbia	SC
Katzman, Wasserman, Bennardini & Rubinstein, PA, Plantation, FL	Katzman, Wasserman, Bennardini & Rubinstein, PA	Plantation	FL
Kaufman & Canoles, Richmond, VA	Kaufman & Canoles	Richmond	VA
Kenneth J. Allen Law Group, Valparaiso, IN	Kenneth J. Allen Law Group	Valparaiso	IN

Lookup to Law Firms	Firm Name	Address - City	Address- State
Key & Tatel, Roanoke, VA	Key & Tatel	Roanoke	VA
Kilpatrick Stockton LLP, Raleigh, NC	Kilpatrick Stockton LLP	Raleigh	NC
Kline & Specter, PC, Philadelphia, PA	Kline & Specter, PC	Philadelphia	PA
Koskoff Koskoff & Beider, PC, Bridgeport, CT	Koskoff Koskoff & Beider, PC	Bridgeport	CT
Kullman, Klein & Dioneda, PC, Clayton, MO	Kullman, Klein & Dioneda, PC	Clayton	MO
La Capra Associates, Inc., Boston, MA	La Capra Associates, Inc.	Boston	MA
Langdon & Emison, Lexington, MO	Langdon & Emison	Lexington	MO
Langdon & Emison, N. Kansas City, MO	Langdon & Emison	N. Kansas City	MO
Langdon and Emison, Lexington, MO	Langdon and Emison	Lexington	MO
Lanzotti & Rau LLC, Cape Girardeau, MO	Lanzotti & Rau LLC	Cape Girardeau	MO
Larry Leake Attorney At Law, Asheville, NC	Larry Leake Attorney At Law	Asheville	NC
Law Office of Robert Stranick, Media, PA	Law Office of Robert Stranick	Media	PA
Law Offices of Jeffrey G. Scott, PLLC, Charlotte, NC	Law Offices of Jeffrey G. Scott, PLLC	Charlotte	NC
Law Offices of Peter A. Jouras, Jr., Overland Park, KS	Law Offices of Peter A. Jouras, Jr.	Overland Park	KS
Law Offices of Rohn and Carpenter, LLC, Christiansted, VI	Law Offices of Rohn and Carpenter, LLC	Christiansted	VI
Law Offices of William M. Jeter, PLLC, Memphis, TN	Law Offices of William M. Jeter, PLLC	Memphis	TN
LeClair Ryan, Glen Allen, VI	LeClair Ryan	Glen Allen	VI
LeClairRyan, Newark, NJ	LeClairRyan	Newark	NJ
LeClairRyan, Washington, DC	LeClairRyan	Washington	DC
Levinson Axelrod, P.A., Edison, NJ	Levinson Axelrod, P.A.	Edison	NJ
Lewis Kappes, Indianapolis, IN	Lewis Kappes	Indianapolis	IN
Lichtenstein Fishwick PPL, Roanoke, VA	Lichtenstein Fishwick PPL	Roanoke	VA

Lookup to Law Firms	Firm Name	Address - City	Address- State
Lucas, Bryant & Denning, PA, ,	Lucas, Bryant & Denning, PA		
Lytal, Reiter, Ivey & Fronrath, West Palm Beach, FL	Lytal, Reiter, Ivey & Fronrath	West Palm Beach	FL
Lytal, Reiter, Smith, Ivey & Fronrath, LLP, West Palm Beach, FL	Lytal, Reiter, Smith, Ivey & Fronrath, LLP	West Palm Beach	FL
MA Attorney General's Office, Boston, MA	MA Attorney General's Office	Boston	MA
Maher & Associates, Towson, MD	Maher & Associates	Towson	MD
Margolis and Velassco, Chicago, IL	Margolis and Velassco	Chicago	IL
Mark C. Tanenbaum, PA, ,	Mark C. Tanenbaum, PA		
Marshall, Williams, Gorham and Brawley, Wilmington, NC	Marshall, Williams, Gorham and Brawley	Wilmington	NC
Martin and Jones, PLLC, Raleigh, NC	Martin and Jones, PLLC	Raleigh	NC
Martin, Jean & Jackson, Ponca City, OK	Martin, Jean & Jackson	Ponca City	OK
Massachusetts Attorney General's Office, Boston, MA	Massachusetts Attorney General's Office	Boston	MA
Maupin Taylor, PA, Raleigh, NC	Maupin Taylor, PA	Raleigh	NC
McAngus Goudelock & Courie, LLC, Raleigh, NC	McAngus Goudelock & Courie, LLC	Raleigh	NC
McCandlish Holton Morris, Richmond, VA	McCandlish Holton Morris	Richmond	VA
McCoy, Weaver, Wiggins, Cleveland & Raper PLLC, ,	McCoy, Weaver, Wiggins, Cleveland & Raper PLLC		
McDonald Toole Wiggins, P.A., Orlando, FL	McDonald Toole Wiggins, P.A.	Orlando	FL
McGougan, Wright, Worley, Harper & Bullard, LLP, Tabor City, NC	McGougan, Wright, Worley, Harper & Bullard, LLP	Tabor City	NC
McGuire Woods, LLP, Richmond, VA	McGuire Woods, LLP	Richmond	VA
McNees Wallace & Nurick LLC, Harrisburg, PA	McNees Wallace & Nurick LLC	Harrisburg	PA
Michael F. Amezaga, P.A., West Palm Beach, FL	Michael F. Amezaga, P.A.	West Palm Beach	FL
Michie Hamlett Lowry Rasmussen & Tweel PLLC, Charlottesville, VA	Michie Hamlett Lowry Rasmussen & Tweel PLLC	Charlottesville	VA

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Miles & Stockbridge, PC, Baltimore, MD	Miles & Stockbridge, PC	Baltimore	MD
Montgomery & Larson, LLP, West Palm Beach, FL	Montgomery & Larson, LLP	West Palm Beach	FL
Moore & Van Allen, PLLC, Durham, NC	Moore & Van Allen, PLLC	Durham	NC
Morris & Morris, ,	Morris & Morris		
Morton and Gettys, Rock Hill, SC	Morton and Gettys	Rock Hill	SC
Narron, O'Hale, Whittington & Woodruff PA, ,	Narron, O'Hale, Whittington & Woodruff PA		
National Benefits America, Inc., ,	National Benefits America, Inc.		
Nationwide Insurance, ,	Nationwide Insurance		
Nelson, Mullins, Riley & Scarborough LLP, Raleigh, NC	Nelson, Mullins, Riley & Scarborough LLP	Raleigh	NC
New Jersey Dividion of Rate Counsel, Trenton, NJ	New Jersey Dividion of Rate Counsel	Trenton	NJ
Nexsen Pruet, Greensboro, NC	Nexsen Pruet	Greensboro	NC
North Carolina League of Municipalities, Raleigh, NC	North Carolina League of Municipalities	Raleigh	NC
Northern Virginia Electric Cooperative (NOVEC), Gainesville, VA	Northern Virginia Electric Cooperative (NOVEC)	Gainesville	VA
Odem & Groves PC, Charlotte, NC	Odem & Groves PC	Charlotte	NC
Offices of David B. Mishael, PA, Miami, FL	Offices of David B. Mishael, PA	Miami	FL
Offices of Ronald C. Jessamy, PLLC, Washington, DC	Offices of Ronald C. Jessamy, PLLC	Washington	DC
O'Malley & Langan, PC, Pittston, PA	O'Malley & Langan, PC	Pittston	PA
Orr & Reno, P.A., Concord, NH	Orr & Reno, P.A.	Concord	NH
Panter, Panter & Sampedro, Miami, FL	Panter, Panter & Sampedro	Miami	FL
Parker Poe, Raleigh, NC	Parker Poe	Raleigh	NC
Parker Poe Law Firm, Spartanburg, SC	Parker Poe Law Firm	Spartanburg	SC
Parker, Poe, Adams & Bernstein, LLP, Charlotte, NC	Parker, Poe, Adams & Bernstein, LLP	Charlotte	NC

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Parr Richey Obremskey Frandsen & Patterson, Lebanon, IN	Parr Richey Obremskey Frandsen & Patterson	Lebanon	IN
Patla, Staus, Robinson & Moore, P.A., Asheville, NC	Patla, Staus, Robinson & Moore, P.A.	Asheville	NC
Patrick C. Fire Law Offices, Boardman, OH	Patrick C. Fire Law Offices	Boardman	OH
Patrick H. Dekle, P.A., Tampa, FL	Patrick H. Dekle, P.A.	Tampa	FL
Patterson Dilthey, LLP, Raleigh, NC	Patterson Dilthey, LLP	Raleigh	NC
Patterson, Dilthey, Clay & Bryson, Raleigh, NC	Patterson, Dilthey, Clay & Bryson	Raleigh	NC
Patterson, Dilthey, Clay, Bryson & Anderson, LLP, Raleigh, NC	Patterson, Dilthey, Clay, Bryson & Anderson, LLP	Raleigh	NC
Patterson, Dilthey, Clay, Cranfill, Sumner & Hartzog, Raleigh, NC	Patterson, Dilthey, Clay, Cranfill, Sumner & Hartzog	Raleigh	NC
Patterson, Harkavy & Lawrence LLP, Raleigh, NC	Patterson, Harkavy & Lawrence LLP	Raleigh	NC
Penry Riemann PLLC, Raleigh, NC	Penry Riemann PLLC	Raleigh	NC
PEPCO, Washington, DC	PEPCO	Washington	DC
Peter Perlman Law Offices PSC, Lexington, KY	Peter Perlman Law Offices PSC	Lexington	KY
Peters, Murdaugh, Parker, Eltzroth & Detrick, Hampton, SC	Peters, Murdaugh, Parker, Eltzroth & Detrick	Hampton	SC
Pitt & Green Electric Membership Corporation, Farmville, NC	Pitt & Green Electric Membership Corporation	Farmville	NC
Pittman, Germany, Roberts & Welsh LLP, Jackson, MS	Pittman, Germany, Roberts & Welsh LLP	Jackson	MS
Podgorny Law, PA, Durham, NC	Podgorny Law, PA	Durham	NC
Pope & Tart, Dunn, NC	Pope & Tart	Dunn	NC
Poyner & Spruill, LLP, ,	Poyner & Spruill, LLP		
Pulley, Watson, King & Lischer, P.A., Durham, NC	Pulley, Watson, King & Lischer, P.A.	Durham	NC
Ragsdale Liggett, Raleigh, NC	Ragsdale Liggett	Raleigh	NC
Rainwater Holt & Sexton, PA, ,	Rainwater Holt & Sexton, PA		
Randles, Mata & Brown, LLC, Kansas City, MO	Randles, Mata & Brown, LLC	Kansas City	MO

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Reid, Lewis Deese & Nance, ,	Reid, Lewis Deese & Nance		
Rhode Island Attorney General, ,	Rhode Island Attorney General		
Rhode Island Division of Public Utilities, Warwick, RI	Rhode Island Division of Public Utilities	Warwick	RI
Rhode Island Division of Public Utilities & Carriers, Warwick, RI	Rhode Island Division of Public Utilities & Carriers	Warwick	RI
Ricci & Leopold, P.A., Palm Beach Gardens, FL	Ricci & Leopold, P.A.	Palm Beach Gardens	FL
Richardson, Patrick, Westbrook & Brickman, LLC, Barnwell, SC	Richardson, Patrick, Westbrook & Brickman, LLC	Barnwell	SC
Robert D. Douglass Attorney at Law, Indiana, PA	Robert D. Douglass Attorney at Law	Indiana	PA
Rogers Mastrangelo Carvalho & Mitchell, Las Vegas, NV	Rogers Mastrangelo Carvalho & Mitchell	Las Vegas	NV
Romano, Eriksen, Cronin & Mullins, Lake Worth, FL	Romano, Eriksen, Cronin & Mullins	Lake Worth	FL
Rountree Losee, LLP, Wilmington, NC	Rountree Losee, LLP	Wilmington	NC
Rourke and Blumenthal, Columbus, OH	Rourke and Blumenthal	Columbus	OH
Sandler & Marchesini, PC, Philadelphia, PA	Sandler & Marchesini, PC	Philadelphia	PA
Sanford Thompson, PLLC, Raleigh, NC	Sanford Thompson, PLLC	Raleigh	NC
Saperston & Day, PC, Buffalo, NY	Saperston & Day, PC	Buffalo	NY
Sasscer, Clagett & Bucher, Upper Marlboro, MD	Sasscer, Clagett & Bucher	Upper Marlboro	MD
Scherffius, Ballard, Still & Ayers, LLP, Atlanta, GA	Scherffius, Ballard, Still & Ayers, LLP	Atlanta	GA
Schoen Walton Teleken & Foster, LLC, Edwardsville, IL	Schoen Walton Teleken & Foster, LLC	Edwardsville	IL
Schultz Law, LLC, Conshohocken, PA	Schultz Law, LLC	Conshohocken	PA
Schwed, Adams, Sobel & McGinley, P.A., Palm Beach Gardens, FL	Schwed, Adams, Sobel & McGinley, P.A.	Palm Beach Gardens	FL
Scott T. Kimmel Attorney at Law, Lighthouse Point, FL	Scott T. Kimmel Attorney at Law	Lighthouse Point	FL

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Searcy, Denney, Scarola, Barnhart & Shipley, PA, W. Palm Beach, FL	Searcy, Denney, Scarola, Barnhart & Shipley, PA	W. Palm Beach	FL
Sedgwick Claims Management Services, Inc, Louisville, KY	Sedgwick Claims Management Services, Inc	Louisville	KY
Shapiro, Cooper, Lewis & Appleton, PC, Virginia Beach, VA	Shapiro, Cooper, Lewis & Appleton, PC	Virginia Beach	VA
Shollenberger Januzzi & Wolfe, LLP, Enola, PA	Shollenberger Januzzi & Wolfe, LLP	Enola	PA
Silverstein, Silverstein & Silverstein, PA, Aventura, FL	Silverstein, Silverstein & Silverstein, PA	Aventura	FL
Simon & Bocksch, Miami, FL	Simon & Bocksch	Miami	FL
Simon Passanante, PC, St. Louis, MO	Simon Passanante, PC	St. Louis	MO
Simpson Boyd & Powers, Decatur, TX	Simpson Boyd & Powers	Decatur	TX
Smith & Duggan LLC, Lincoln, MA	Smith & Duggan LLC	Lincoln	MA
Smith & Duggan, LLP, Boston, MA	Smith & Duggan, LLP	Boston	MA
Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, LLP, Raleigh, NC	Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, LLP	Raleigh	NC
Smith, Helms, Mulliss & Moore, LLP, ,	Smith, Helms, Mulliss & Moore, LLP		
Smith, Patterson, Follin, Curtis, James & Haravey, Greensboro, NC	Smith, Patterson, Follin, Curtis, James & Haravey	Greensboro	NC
Sommer, Olk, Schroeder & Payant, LLP, Rhienlander, WI	Sommer, Olk, Schroeder & Payant, LLP	Rhienlander	WI
Spivey Law Firm, Ft. Myers, FL	Spivey Law Firm	Ft. Myers	FL
St. Paul Fire and Marine Insurance Company, Charlotte, NC	St. Paul Fire and Marine Insurance Company	Charlotte	NC
State of Maine, Department of Public Advocate, Augusta, ME	State of Maine, Department of Public Advocate	Augusta	ME
Stites & Hopkins, Kansas City, MO	Stites & Hopkins	Kansas City	MO
Stoner, Bowers, Gray & McDonald, P.A., ,	Stoner, Bowers, Gray & McDonald, P.A.		

Lookup to Law Firms	Firm Name	Address - City	Address- State
Strassburger McKenna Gutnick & Gefsky, Pittsburgh, PA	Strassburger McKenna Gutnick & Gefsky	Pittsburgh	PA
Strong Garner Bauer, PC, Springfield, MO	Strong Garner Bauer, PC	Springfield	MO
Sumrel ,Sugg, Carmichael, Hicks & Hart, New Bern, NC	Sumrel ,Sugg, Carmichael, Hicks & Hart	New Bern	NC
Taraska, Grower, Unger & Ketcham, PA, ,	Taraska, Grower, Unger & Ketcham, PA		
Taylor, Day, Grimm, Boyd & Johnson, Jacksonville, FL	Taylor, Day, Grimm, Boyd & Johnson	Jacksonville	FL
The Accurso Law Firm, Kansas City, MO	The Accurso Law Firm	Kansas City	MO
The Becker Law Firm, Cleveland, OH	The Becker Law Firm	Cleveland	OH
The Chandler Law Group, Charlottesville, VA	The Chandler Law Group	Charlottesville	VA
The Daniel Law Group PLLC, Indiana, PA	The Daniel Law Group PLLC	Indiana	PA
The Goss Law Firm, P.C., Kansas City, MO	The Goss Law Firm, P.C.	Kansas City	MO
The Kuhlman Law Firm, LLC, Kansas City, MO	The Kuhlman Law Firm, LLC	Kansas City	MO
The Popham Law Firm, Kansas City, MO	The Popham Law Firm	Kansas City	MO
The Redfearn Law Firm, P.C., Independence, MO	The Redfearn Law Firm, P.C.	Independence	MO
The Simon Law Firm, P.C., St Louis, MO	The Simon Law Firm, P.C.	St Louis	MO
The Wilbur C. Smith, III Law Firm, LLC, Fort Myers, FL	The Wilbur C. Smith, III Law Firm, LLC	Fort Myers	FL
Thompson, Smyth & Cioffi, LLP, Raleigh, NC	Thompson, Smyth & Cioffi, LLP	Raleigh	NC
Throp, Fuller & Slifkin, P.A., Raleigh, NC	Throp, Fuller & Slifkin, P.A.	Raleigh	NC
Timothy D. Welbourne Attorney at Law, ,	Timothy D. Welbourne Attorney at Law		
Town of Hookerton, ,	Town of Hookerton		
Troutman Sanders LLP, Raleigh, NC	Troutman Sanders LLP	Raleigh	NC
Turner & Sweeny, Kansas City, MO	Turner & Sweeny	Kansas City	MO

Lookup to Law Firms	Firm Name	Address - City	Address- State
Twiggs, Abrams, Strickland & Trehy, P.A., Raleigh, NC	Twiggs, Abrams, Strickland & Trehy, P.A.	Raleigh	NC
US General Services Administration, Kansas City, MO	US General Services Administration	Kansas City	MO
Utiliworks Consulting, LLC, Baton Rouge, LA	Utiliworks Consulting, LLC	Baton Rouge	LA
Vandeventer Black LLP, Raleigh, NC	Vandeventer Black LLP	Raleigh	NC
VML Insurance Programs, Richmond, VA	VML Insurance Programs	Richmond	VA
W. Osmond Smith III Attorney at Law, ,	W. Osmond Smith III Attorney at Law		
Walker & Morgan, LLC, Lexington, SC	Walker & Morgan, LLC	Lexington	SC
Walters Bender Strohbehn & Vaughan, PC, Kansas City, MO	Walters Bender Strohbehn & Vaughan, PC	Kansas City	MO
Ward & Smith, PA, Greenville, NC	Ward & Smith, PA	Greenville	NC
Warren & Kallianos, Charlotte, NC	Warren & Kallianos	Charlotte	NC
Warren & McGraw, LLC, Blue Bell, PA	Warren & McGraw, LLC	Blue Bell	PA
Warshafsky, Rotter, Tarnoff & Block, S.C., Milwaukee, WI	Warshafsky, Rotter, Tarnoff & Block, S.C.	Milwaukee	WI
Warshauer Poe & Thornton, PC, Atlanta, GA	Warshauer Poe & Thornton, PC	Atlanta	GA
Whitacker, Mudd, Luke & Wells, LLC, Birmingham, AL	Whitacker, Mudd, Luke & Wells, LLC	Birmingham	AL
Whitesides & Kenny, ,	Whitesides & Kenny		
Wilkins Frohlich, PA, Port Charlotte, FL	Wilkins Frohlich, PA	Port Charlotte	FL
Williams & Connolly LLP, Washington, DC	Williams & Connolly LLP	Washington	DC
Williams Hart Boundas Easterby, LLP, Houston, TX	Williams Hart Boundas Easterby, LLP	Houston	TX
Williamson & Lavecchia LC, Richmond, VA	Williamson & Lavecchia LC	Richmond	VA
Wilson Elser Moskowitz Edelman & Dicker LLP, McClean, VA	Wilson Elser Moskowitz Edelman & Dicker LLP	McClean	VA

Lookup to Law Firms	Firm Name	Address - City	Address- State
Wilson Elser Moskowitz Edelman & Dicker, LLP, McLean, VA	Wilson Elser Moskowitz Edelman & Dicker, LLP	McLean	VA
Wilson, Frame, Metheney Attorneys & Counselors at Law, Morgantown, WV	Wilson, Frame, Metheney Attorneys & Counselors at Law	Morgantown	WV
Wilson, Garber & Small, Orlando, FL	Wilson, Garber & Small	Orlando	FL
Winner, Wixson & Pernitz, Madison, WI	Winner, Wixson & Pernitz	Madison	WI
Womble Carlyle Sandridge & Rice, Winston-Salem, NC	Womble Carlyle Sandridge & Rice	Winston-Salem	NC
Wyatt Law Firm, San Antonio, TX	Wyatt Law Firm	San Antonio	TX
Yates, McLamb & Weyher, LLP, Raleigh, NC	Yates, McLamb & Weyher, LLP	Raleigh	NC
Young & Adams, Attorneys at Law, Boca Raton, FL	Young & Adams, Attorneys at Law	Boca Raton	FL
Young Moore and Henderson, P.A., Raleigh, NC	Young Moore and Henderson, P.A.	Raleigh	NC
Zurich American Insurance Company, Charlotte, NC	Zurich American Insurance Company	Charlotte	NC
Zurich North America, ,	Zurich North America		

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