

BEFORE THE  
NEW YORK STATE  
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the  
Rates, Charges, Rules and Regulations of  
New York State Electric & Gas Corporation  
for Electric Service

Case 19-E- \_\_\_\_\_

Proceeding on Motion of the Commission as to the  
Rates, Charges, Rules and Regulations of  
Rochester Gas and Electric Corporation  
for Electric Service

Case 19-E- \_\_\_\_\_

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**DIRECT TESTIMONY OF  
VEGETATION MANAGEMENT PANEL**

**James Crosier  
William Ransom  
J. M. Sparkman**

May 20, 2019

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**I. INTRODUCTION AND PURPOSE OF TESTIMONY**

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Q. Please state the names of the members on this Vegetation Management Panel (the “Panel”).

A. We are James Crosier, William Ransom, and J. M. Sparkman.

Q. Mr. Crosier, please state your title and business address.

A. My title is Manager, Transmission Vegetation Management. My business address is 18 Link Drive, Binghamton, NY 13904.

Q. Please summarize your work experience and educational background.

A. I have a BS in Resource Management from SUNY College of Environmental Science and Forestry. I have worked in the area of utility transmission and distribution (“T&D”) vegetation management for 39 years. For 10 years I was a field worker in T&D vegetation management, for 20 years I managed contractor T&D vegetation management crews for various vegetation management contracting companies, and for the last 9 years I have had various managerial roles in vegetation management for New York State Electric & Gas Corporation (“NYSEG”), Rochester Gas and Electric Corporation (“RG&E” and together with NYSEG, the “Companies”) and Central Maine Power Company. Currently, I am the Manager, Transmission Vegetation Management for the Companies. My Curriculum Vitae (“CV”) is set forth in Exhibit \_\_ (VMP-1).

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1 Q. Have you previously testified in other proceedings before the New York State Public  
2 Service Commission (the “Commission”) or any other state or federal regulatory agency  
3 or court?

4 A. Yes, I have testified in Case 12-T-0248, concerning NYSEG’s application for a  
5 Certificate of Environmental Compatibility and Public Need for the Columbia County  
6 Transmission Project.

7 Q. Mr. Ransom, please state your title and business address.

8 A. My title is Director – Network Management. My business address is 1300 Scottsville  
9 Road, Rochester, New York 14624.

10 Q. Please summarize your work experience and educational background.

11 A. In my role as Director – Network Management, I am responsible for T&D network  
12 vegetation management, network maintenance policies and planning, and equipment and  
13 construction standardization. I joined NYSEG in 1988 and I am a registered Professional  
14 Engineer in the State of New York. My CV is set forth in Exhibit \_\_ (VMP-1).

15 Q. Have you previously testified in other proceedings before the Commission or any other  
16 state or federal regulatory agency or court?

17 A. Yes, I have testified before the Commission in Cases 15-E-0283 et al., the Companies’  
18 most recent rate proceedings. Also, I have testified before the regulatory commission in  
19 the State of Maine.

20 Q. Mr. Sparkman, please state your title and business address.

21 A. I am the Manager, Consulting Services for Lakeside Environmental Consultants, LLC  
22 (d.b.a., Environmental Consultants, d.b.a., ECI) (“ECI”). My business address is  
23 520 Business Park Circle, Stoughton, Wisconsin 53589.

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1 Q. Please summarize your work experience and educational background.

2 A. I hold a BS in Forestry from Virginia Polytechnic Institute and State University. I have  
3 over 30 years of utility vegetation management experience, including 21 years of direct  
4 utility experience and 9 years of utility vegetation management consulting. My CV is set  
5 forth in Exhibit \_\_ (VMP-1).

6 Q. Have you previously testified in other proceedings before the Commission or any other  
7 state or federal regulatory agency or court?

8 A. Yes, I provided testimony for the Companies in their last rate cases, 15-E-0283 et al.  
9 I also testified on behalf of Florida Power & Light Company in Case No. 2003-020101-  
10 CA-01 in Miami Dade County.

11 Q. What is the overall purpose of the Panel's testimony?

12 A. The Panel discusses NYSEG's and RG&E's electric vegetation management proposals.  
13 The purpose of the Panel's testimony is to evaluate and recommend changes to the  
14 electric vegetation management practices at NYSEG and RG&E.

15 Q. Please provide a high-level summary of the Panel's recommendations regarding  
16 NYSEG's electric distribution vegetation management practices.

17 A. The Panel recommends and provides support for moving NYSEG to a full-cycle  
18 distribution vegetation management program. Our testimony utilizes ECI's  
19 comprehensive workload study to identify the optimal cycle scenario that will provide for  
20 the most long-term improvements at the most economical cost.

21 Q. What options did the Panel analyze and what were the results of the Panel's analysis?

22 A. The Panel analyzed two options. Results of the analysis and subsequent  
23 recommendations for full-cycle distribution vegetation management are presented in

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1 Exhibit \_\_ (VMP-3). In summary, this Panel supports Option 1, which provides for a  
2 four-year cycle on 34.5 kV circuits, a five-year cycle on 12.5-19.9 kV circuits, and a  
3 five-year cycle on circuits below 12.5 kV. Option 1 provides for a five-year reclamation  
4 period and offers the greatest long-term reliability and cost savings. In addition, work on  
5 the three-phase portions of the 12.5-19.9 kV circuits drops to a four-year cycle in the  
6 second cycle.

7 Q. What is the reclamation period you mentioned earlier in connection with ECI's  
8 recommendation?

9 A. In 2020, 44% of the NYSEG distribution system will be out of cycle. The reclamation  
10 period is the time during which this overgrown 44% of the system is trimmed to full  
11 specification (i.e., reclaimed). The recommended Option 1 provides for a reclamation  
12 period of five years (the "Reclamation Cycle"). If approved, all NYSEG distribution  
13 circuits will receive full specification maintenance during the period 2020-2024, of which  
14 44% will involve a reclamation of overgrown circuits.

15 Q. Under Option 1, would NYSEG incur the full cost estimated for the first year of the  
16 Reclamation Cycle during the Rate Year?

17 A. No. The first year of the Reclamation Cycle includes an 18-month phase-in to ramp-up  
18 NYSEG's required labor resources in the most effective manner. In addition, the  
19 estimated \$70.4 million shown on Exhibit \_\_ (VMP-3) for Option 1 is an average annual  
20 cost over the five-year reclamation period, which includes an inflation adjustment (based  
21 on the consumer price index ("CPI")) for each year.

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1 Q. Why is NYSEG proposing this “ramp-up” period?

2 A. A planned, steady increase over time in required contract labor resources provides the  
3 most cost-effective approach to reaching the resource levels necessary to accomplish the  
4 reclamation.

5 Q. What are the estimated annual expenditure requirements for Option 1?

6 A. Table 1 presents the estimated annual expenditure requirements for Option 1, assuming  
7 an implementation date of May 2020 and including adjustments for inflation.

8 As discussed in the Companies’ Revenue Requirements Panel, NYSEG proposes to  
9 levelize these costs across the 10 years covered by the first two cycles.

10 Table 1: NYSEG Estimated Rate Year Annual Expenditure Requirements for Option 1  
11 (dollars in millions; includes adjustments for inflation and Ramp-Up)

May 2020 – Apr. 2021	May 2021 – Apr. 2022	May 2022 – Apr. 2023	May 2023 – Apr. 2024	May 2024 – Apr. 2025
\$47.2	\$57.6	\$81.7	\$84.6	\$80.7

12 Q. Please provide a high-level summary of the Panel’s recommendations regarding RG&E’s  
13 distribution vegetation management practices.

14 A. As established in RG&E’s current rate plan, the Company’s total annual distribution  
15 vegetation management allowance is currently at \$8.1 million. RG&E completed the  
16 third year of its second cycle at the end of 2018. RG&E has experienced cost increases  
17 that will require additional funding for the Company’s estimated spend in 2020 and  
18 beyond. Results of the analysis are presented in Exhibit \_\_ (VMP-4). These cost  
19 increases are primarily due to inflation. As such, RG&E has estimated its annual  
20 expenditure requirements for the five years starting in May 2020 in Table 2 below.

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1 Table 2: RG&E Estimated Rate Year Annual Expenditure Requirements for a Five-Year Cycle  
 2 (dollars in millions; includes adjustments for inflation)

May 2020 - Apr. 2021	May 2021 – Apr. 2022	May 2022 – Apr. 2023	May 2023 – Apr. 2024	May 2024 – Apr. 2025
\$8.3	\$8.4	\$8.6	\$8.8	\$9.0

3 Q. How are the Vegetation Management proposals discussed in this testimony related to the  
 4 Companies' Resiliency Plan?

5 A. New York has seen its share of more intense weather events in the last few years as  
 6 compared to historical periods. The Resiliency Plan addresses additional vegetation  
 7 management practices designed to enhance the reliability of the multi-phase systems that  
 8 support a majority of the customer load during these adverse and more frequent weather  
 9 events. The Resiliency Plan addresses the removal of all overhanging limbs on multi-  
 10 phase lines that are the most susceptible to outages from the cross-phasing of limbs and  
 11 voltage gradient. It also addresses the removal of additional trees along the multi-phase  
 12 rights-of-way including the removal of hazard trees, fast growing and soft-wooded  
 13 species susceptible to wind damage, and "trapped" trees directly under the conductors.  
 14 Further details on the Resiliency Plan are provided in the testimony of the Companies'  
 15 Resiliency Plan Panel.

**II. SUMMARY AND IDENTIFICATION OF EXHIBITS**

16 Q. Is this Panel sponsoring any exhibits?

17 A. Yes. This Panel sponsors the following exhibits:

- 18 1) Exhibit \_\_ (VMP-1) provides the CVs of the witnesses testifying on this Panel;  
 19 2) Exhibit \_\_ (VMP-2) contains NYSEG's distribution cycle optimization study;  
 20



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1 3) Exhibit \_\_ (VMP-3) provides the 2020 Vegetation Management Cycle Alternative  
2 Analysis performed for NYSEG by ECI;

3 4) Exhibit \_\_ (VMP-4) provides the 2020 Vegetation Management Cycle Alternative  
4 Analysis performed for RG&E by ECI;

5 5) Exhibit \_\_ (VMP-5) provides the emerald ash borer analysis performed for NYSEG  
6 and RG&E by ECI;

7 6) Exhibit \_\_ (VMP-6) provides the vegetation management resiliency plan for the  
8 Companies;

9 7). Exhibit \_\_ (VMP-7) NYSEG Historical Cost Analysis provides an estimate of future  
10 first and second cycle costs based on historical pricing; and

11 8) Exhibit \_\_ (VMP-8) provides an index of the Panel’s workpapers. A copy of the  
12 workpapers will be provided to the New York State Department of Public Service  
13 Staff (“Staff”).

14 **III. DISTRIBUTION VEGETATION MANAGEMENT**

15 **A. NYSEG**

16 Q. Please discuss NYSEG’s distribution vegetation management practices.

17 A. Given the annual amounts allowed in rates for distribution vegetation management,  
18 NYSEG has balanced maintaining reliability with achieving its annual mileage targets.  
19 NYSEG currently schedules whole circuit maintenance to include all line segments  
20 within each circuit, which provides for cost-effective contracting. Circuits are prioritized  
21 utilizing a process that ranks circuits based on past tree-caused outages, customer density,  
22 and line clearance history. This method combines some of the basic concepts of a  
23 reliability-centered maintenance program in order to have the greatest impact on

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1 reliability with the funding available. Table 3 below shows the annual spending and  
 2 miles trimmed for the years 2015 – 2018, and the planned amounts for 2019.

3 Table 3: NYSEG Reported Annual Distribution Spend and Miles Completed/Planned for  
 4 Years 2015-2019  
 5 (dollars in millions)

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 (Planned)</b>
Dist. Spend	\$24.3	\$23.1	\$25.3	\$29.5	\$34.2
Miles	3,101	2,781	2,778	3,494	4,242

6 Q. You mentioned earlier that the Panel utilized ECI’s comprehensive workload study to  
 7 identify the optimal cycle scenario. What is ECI?

8 A. ECI is an environmental, scientific, and vegetation management consulting firm with its  
 9 operations office located in Stoughton, Wisconsin. ECI’s administrative office is in  
 10 Southampton, Pennsylvania and it has several other offices nationwide. ECI is a leading  
 11 provider of vegetation management consulting services, with over 45 years of consulting  
 12 experience in the electric utility industry, having served companies throughout the United  
 13 States, Canada, Australia, and the United Kingdom. ECI provides quality solutions for  
 14 all aspects of vegetation management, including program development, crew productivity  
 15 measurement, environmental assessment, contract foresters, program management,  
 16 training, expert testimony, and research. ECI has helped over 200 utilities develop new  
 17 or improved distribution and transmission vegetation management programs. ECI has a  
 18 staff of approximately 300 professionals with expertise in vegetation management,  
 19 forestry, biology, wildlife management, and related fields. ECI prepared the Vegetation  
 20 Management Manual for the National Rural Electric Cooperative Association, completed

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1 a companion manual on tree growth regulators, and prepared the Utility Specialist  
2 Certification Guide for the International Society of Arboriculture.

3 Q. You indicated earlier that the Panel recommends and provides support for moving  
4 NYSEG to a full-cycle distribution vegetation management program. What is full-cycle  
5 vegetation management?

6 A. Full-cycle vegetation management is a time-driven approach for determining the  
7 appropriate frequency during which vegetation on all overhead distribution miles are  
8 maintained. Cycles are based upon three main factors: tree-to-conductor clearance  
9 achieved at the time of preventive maintenance; regrowth rates of the dominant tree  
10 species on the distribution system; and level of tolerance for incidental tree-conductor  
11 contact. These factors are used to establish the frequency of maintenance and the  
12 calculated resource requirements.

13 Q. What are the benefits of a full-cycle vegetation management plan?

14 A. The May 5, 2019, ECI Report (Exhibit \_\_ (VMP-2)) (“ECI Report”) discusses the  
15 benefits associated with NYSEG’s implementation of full-cycle distribution vegetation  
16 management. As discussed in the ECI Report, “trees are a leading cause of service  
17 interruptions at NYSEG and at most utilities.” See Exhibit \_\_ (VMP-2), page 19.  
18 Vegetation management programs are “key strategic initiatives designed to manage risks  
19 through the efficient and cost-effective maintenance of vegetation posing an immediate  
20 or potential threat to the electric delivery system.” See Exhibit \_\_ (VMP-2), page 8.  
21 Such risks include, but are not limited to, system reliability, infrastructure equipment and  
22 public safety. The ECI Report also references several advantages of the Reclamation  
23 Cycle and long-term maintenance cycle, including the potential for: 1) reduction in storm

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1 restoration time and cost; 2) maintenance of acceptable reliability with potential for  
2 improvement in system reliability; 3) improvement in customer satisfaction;  
3 4) improvement of public relations image; 5) improvement in safety to NYSEG workers,  
4 NYSEG contractor workers, and the public; and 6) reduction in customer trim requests  
5 and associated cost.

6 Q. Is a full-cycle distribution vegetation management plan consistent with any  
7 recommendations received from the New York State Department of Public Service?

8 A. Yes; full-cycle distribution vegetation management is consistent with Staff’s 2018 Winter  
9 and Spring Storms Investigation Report filed on April 18, 2019, in Case 19-M-0285 – In  
10 the Matter of Utility Preparation and Response to Power Outages During the March 2018  
11 Winter and Spring Storms (the “2018 Staff Storm Report”), which made several  
12 references to cycle trimming. For example, page 163 of the 2018 Staff Storm Report  
13 states “A benefit of these [routine] trimming programs is that they are designed to aid in  
14 hardening the distribution system, since trimming of encroaching vegetation can prevent  
15 tree limbs from falling on electric lines.” The 2018 Staff Storm Report also states on  
16 page 165 that “Staff agrees that existing tree management specifications should be  
17 strengthen[ed] and expanded in certain areas, such as on a portion of a circuit that serves  
18 as a critical facility. NYSEG/RGE’s next rate case filing should also include a proposal  
19 to move to system-wide five-year trim cycle.”

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1 Q. In recommending that NYSEG generally move to a five-year cycle program (four years  
2 in some circumstances as noted in Option 1, described previously) on its distribution  
3 system, what specifically did ECI analyze for NYSEG?

4 A. ECI undertook a distribution system cycle optimization study, which resulted in the  
5 development of the ECI Report, attached as Exhibit \_\_ (VMP-2). As part of the ECI  
6 Report, ECI analyzed, among other items, trees per mile, tree species, and tree regrowth  
7 data in NYSEG's service territory. The percentage of tree workload adjacent to multi-  
8 phase lines, the percentage of trees in contact with conductors, the percentage of trees  
9 overhanging the conductors, the percentage of hazard trees with obvious defects and the  
10 top trims as a percentage of all trims are all important considerations when determining  
11 optimal cycle lengths.

12 Q. Please discuss the results of this analysis.

13 A. Table 6 in the ECI Report (Exhibit \_\_ (VMP-2), page 15) summarizes trees per mile for  
14 multi-phase lines, trees in contact, overhanging trees, hazard trees and top pruning  
15 workload by division. As shown in Table 6 of the ECI Report, there is an overall average  
16 of 86 trees per mile in the NYSEG system. This is slightly less than the average utility  
17 for which ECI has comparable data. However, tree density varies significantly from  
18 division to division within NYSEG's system and often varies within a division depending  
19 on circuit location. As reflected in Table 6 of the ECI Report, the average trees per mile  
20 by division ranges from 56 in Elmira and Plattsburgh to 162 in Brewster and 175 in  
21 Liberty.

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1 Q. What else did ECI study?

2 A. ECI also studied the types of trees and associated growth in NYSEG's service territory.

3 One of the primary considerations in determining the appropriate maintenance cycle for  
4 the NYSEG distribution system is the rate at which the trees grow after being pruned.

5 ECI used regional tree regrowth data, species frequency, and the percentage of each  
6 species that require either top or side pruning to project average tree regrowth and the  
7 amount of line contact by varying maintenance cycles. The overall growth rates of top-  
8 and side-pruned trees in this study are shown in Figure 6 of the ECI Report.

9 See Exhibit \_\_ (VMP-2), page 22. Figure 7 of the ECI Report (Exhibit \_\_ (VMP-2),  
10 page 23) presents the percentage of trees that can be expected to be in direct contact with  
11 conductors each year after pruning.

12 Q. Are there other factors that impact the total cost of pruning?

13 A. Yes. Tree clearance is also a major factor to the total cost of pruning. Trees in close  
14 proximity to the conductors require additional steps and safety measures for the tree  
15 crew, which can significantly impact productivity. Lower productivity equals higher  
16 costs. Table 8 of the ECI Report (Exhibit \_\_ (VMP-2), page 18) indicates that 50% of  
17 the trees on the NYSEG system were within four feet of primary conductors at the time  
18 of the workload survey with the potential to make line contact within two growing  
19 seasons. With each passing year, the cost of maintaining these trees increases.

20 Q. What are the ECI Report's recommendations?

21 A. Based on its evaluation of the NYSEG system, ECI recommends moving NYSEG toward  
22 an optimal vegetation management approach with full-cycle vegetation management on  
23 all distribution voltages. ECI also recommends long-term vegetation management

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1 strategies. ECI specifically recommends that NYSEG implement an initial Reclamation  
2 Cycle in which full-cycle maintenance of the three-phase portions of 34.5 kV circuits will  
3 continue while NYSEG moves to full-circuit maintenance on all remaining circuits,  
4 including laterals. ECI recommends that the Reclamation Cycle include an eighteen-  
5 month phase-in to ramp up NYSEG's workforce and contractors in the most effective  
6 manner. ECI also recommends that the Reclamation Cycle include a four-year cycle for  
7 34.5 kV, a five-year cycle for 12.5-19.9 kV, and a five-year cycle for less than 12.5 kV.  
8 Given that the Reclamation Cycle would include full-circuit pruning on laterals that have  
9 not been trimmed in a number of years, the cost per mile during this phase was estimated  
10 to be higher than the cost per mile for circuits that have been trimmed on a regular cycle.  
11 After the Reclamation Cycle, ECI recommends that NYSEG enter into a Long-Term  
12 Maintenance Cycle. As noted in the ECI Report, "the maintenance cost per mile will be  
13 reduced significantly in the second cycle and beyond as there will be a lower workload,  
14 increased productivity due to trees no longer growing between the conductors, and fewer  
15 trees and brush requiring removal." See Exhibit \_\_ (VMP-2), page 4.

16 Q. Please explain the Reclamation Cycle described in the ECI Report.

17 A. The Reclamation Cycle includes a four-year cycle on the 34.5 kV lines, and a five-year  
18 cycle on all remaining voltages. All circuits are to be pruned to the full NYSEG  
19 clearance specifications. The Reclamation Cycle includes an 18-month ramp-up period.  
20 See Exhibit \_\_ (VMP-2), page 52. The reclamation costs and cash flows are set forth in  
21 the NYSEG 2020 Vegetation Management Cycle Alternative Analysis provided as  
22 Exhibit \_\_ (VMP-3). The Reclamation Cycle also addresses circuit prioritization and

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1 scheduling, personnel, work acceptance, auditing, customer relations, and tracking/record  
2 keeping.

3 Q. Please explain the Long-Term Maintenance Cycle described in the ECI Report.

4 A. The Long-Term Maintenance Cycle includes a four-year cycle on the 34.5 kV lines, a  
5 four-year cycle on three-phase with a five-year cycle on single-phase lines for voltages  
6 between 12.5 kV and 19.9 kV, and a five-year cycle on all voltages below 12.5 kV.

7 All circuits are to be pruned to the full NYSEG clearance specifications.

8 See Exhibit \_\_ (VMP-3).

9 Q. What are the costs associated with the Reclamation Cycle and Long-Term Maintenance  
10 Cycle?

11 A. The annual and Rate Year costs associated with these cycles are contained in  
12 Exhibit \_\_ (VMP-3). As stated therein, the total average annual cost for these programs  
13 would be \$70.4 million for the Reclamation Cycle (years one through five) and  
14 \$62.4 million for the second cycle (years six through ten).

15 Q. Was other data analyzed to support the cost estimates developed by ECI for Cycle 1  
16 (reclamation) and Cycle 2 (steady state)?

17 A. Yes. An analysis was performed of actual circuit full maintenance contractor costs  
18 during the period 2013-2019. The analysis involved projecting 2013-2019 historical  
19 costs forward adding CPI, and adjusting the future cost based on whether the last trim to  
20 specification involved reclamation. For circuits not maintained to full specification  
21 during the period 2013-2019, a cost per mile reclamation average cost per division was  
22 applied and projected to a future trim date with CPI, as shown in Exhibit \_\_ (VMP-7).



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1 Q. What activities has NYSEG introduced to reduce overall long-term vegetation  
2 maintenance expenses?

3 A. In 2018, NYSEG began the use of herbicides as part of its distribution vegetation  
4 management practices. This helps to reduce overall long-term vegetation management  
5 expenses as it retards the growth rate of vegetation that could impact the distribution  
6 system.

7 Q. The ECI Report describes two cycle options for NYSEG. Would the Panel please  
8 describe each of the two program scenarios?

9 A. Based on the experiences gained, NYSEG, with the support of ECI, has identified two  
10 program scenarios. Detailed expenditure requirement breakouts, excluding inflation,  
11 developed for each scenario are listed in Appendix A of Exhibit \_\_ (VMP- 3).

12 Q. Please describe the first of the two full-cycle vegetation management options  
13 (“Option 1”) identified by ECI and recommended by the Panel.

14 A. Option 1 (the recommended approach) includes a four-year cycle on 34.5 kV circuits, a  
15 five-year cycle on 12.5-19.9 kV circuits, and a five-year cycle on 12.5 kV and below  
16 circuits. This option includes full clearance specification on all phases for both the first  
17 and second cycle. The three-phase portions of the 12.5-19.9 kV circuits drop to a four-  
18 year cycle in the second cycle. Average annual costs with inflation for the first cycle are  
19 estimated at \$70.4 million (years one through five) reducing to \$62.4 million in the first  
20 year of the second cycle.

21 Q. Please describe Option 2.

22 A. Option 2 includes a five-year cycle on all circuit voltages with a supporting five-year  
23 mid-cycle program on the three-phase portions of the 34.5 kV circuits. The average

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annual costs with inflation for the first cycle (years one through five) are estimated at \$64.6 million decreasing to \$63.7 million in the second cycle (years six through ten).

Q. Please compare the two options, including the costs and the potential for tree-related System Average Interruption Frequency Index (“SAIFI”) reduction for each option.

A. Table 4 below provides a side-by-side comparison of the two options.

**Table 4: NYSEG Full-Cycle Alternatives**  
(includes inflation and assumes an April 2020 implementation)

Option	Description	5 Year Estimate	End 1st Cycle Estimate	Reclamation Cycle Average Annual Cost Estimate (with Inflation)	2nd Cycle Average Annual Cost Estimate (with Inflation)	Total Cost End of 1st Cycle (with Inflation)
<b>Option 1 Full Spec Recommended</b>	<b>Circuit Cycle:</b> <12.5kV= 5 yr 12.5-19.9kV= 5 yr 34.5kV= 4 yr  (3 phase on 12.5-19.9kV drops to 4 yr cycle in 2nd cycle)  <b>Hazard Tree:</b> All= 5 yr	<b>CI Avoided:</b> <12.5kV= 8,798 12.5-19.9kV= 10,686 34.5kV= 14,141  Total= 33,624  %Tree SAIFI Redtn.= 13.84%	<b>CI Avoided:</b> <12.5kV= 8,798 12.5-19.9kV= 10,686 34.5kV= 14,141  Total= 33,624  %Tree SAIFI Redtn.= 13.84%	\$70,361,544 (years 1-5)	\$62,351,054 (years 6-10)	\$351,807,720 (5-years)
<b>Option 2 Full Spec</b>	<b>Circuit Cycle:</b> <12.5kV= 5 yr 12.5-19.9kV= 5 yr 34.5kV= 5 yr  <b>Mid Cycle:</b> 34.5kV 3ø= 5 yr <b>Hazard Tree:</b> All= 5 yr	<b>CI Avoided:</b> <12.5kV= 8,798 12.5-19.9kV= 10,686 34.5kV= 7,431 Total= 26,915  %Tree SAIFI Redtn.= 12.14%	<b>CI Avoided:</b> <12.5kV= 8,798 12.5-19.9kV= 10,686 34.5kV= 7,431 Total= 26,915  %Tree SAIFI Redtn.= 12.14%	\$64,604,673 (years 1-5)	\$63,661,355 (years 6-10)	\$323,023,366 (5-years)

Q. Why does the Panel recommend NYSEG adopt Option 1?

A. Each of the full-cycle scenarios offers varying levels of reliability improvement and speed with which those improvements can be realized. The Panel recommends Option 1, because it will yield the lowest overall long-term (i.e., 2nd cycle and beyond) annual expenditure requirement and will provide for an 13.84% reduction in tree-related SAIFI from 0.42 (average 2015/2018 SAIFI) to 0.36 by the end of the first cycle. The key

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1 difference between Option 1 and Option 2 is the utilization of a four-year cycle for  
2 34.5 kV circuits and other three-phase circuits. Table 4 provides the annual expenditure  
3 requirements including inflation, assuming a May 2020 implementation date.

4 **B. RG&E**

5 Q. Please describe RG&E's current distribution vegetation management practices.

6 A. As established in the Company's current rate plan, RG&E's total annual distribution  
7 vegetation management spend is approximately \$8.1 million to accommodate its current  
8 five-year average cycle. RG&E completed the third year of its second five-year average  
9 maintenance cycle at the end of 2018. As described earlier in this testimony, the cost to  
10 complete RG&E's next five-year average cycle has increased primarily due to inflation.  
11 RG&E has estimated its annual expenditure requirements for continuing of a five-year  
12 average cycle as noted in Table 2 above and in Exhibit \_\_ (VMP-4).

13 Q. What is the Panel's estimated cost of RG&E's distribution vegetation management for  
14 the year starting May 2020 and for future years?

15 A. Yes. The Panel has estimated \$8.3 million for the year beginning May 2020, with  
16 inflation driven increases in future years, as noted previously in Table 2.

17 **C. Cost Recovery for Vegetation Management Expenses**

18 Q. How do the Companies propose to recover distribution vegetation management costs?

19 A. The Companies propose that these costs continue to be recovered through base rates.

20 Q. Is the Panel proposing a change in the Companies' accounting treatment for and recovery  
21 of distribution vegetation management costs?

22 A. Yes. The Companies' distribution vegetation management expenditures are currently  
23 included in base rates and are subject to a downward-only reconciliation mechanism with

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1 carry-forward; that is, if the Company spends less than the amount allowed in rates  
2 during a particular rate year, the difference in spending is deferred. The first utilization  
3 of any deferred amounts is for distribution vegetation management in future years, or, in  
4 the alternative, for the benefit of customers should it not be required for distribution  
5 vegetation management. The Panel now recommends that a full two-way reconciliation  
6 be adopted for NYSEG's and RG&E's distribution vegetation management spending.

7 Q. Is a downward-only reconciliation mechanism appropriate given today's circumstances?

8 A. No. A full two-way reconciliation (with carry-forward) is an appropriate mechanism  
9 because the actual costs incurred in the Rate Year and in future years will be based nearly  
10 entirely on competitive bids, which cannot be fully known at this time, particularly with  
11 the ramp-up during the reclamation period described earlier.

12 **IV. TRANSMISSION VEGETATION MANAGEMENT**

13 Q. Can you explain the Companies' current transmission line clearing program?

14 A. The transmission line clearing program is set forth in the Companies' Long-Range Right-  
15 of-Way Management Plan (also referred to as the Transmission Vegetation Management  
16 Plan or "TVMP"). The TVMP is designed to meet mandatory NERC standards (i.e.,  
17 FAC-003) and the Commission's requirements established in Case 04-E-0822.  
18 Vegetation management is performed on all transmission voltage lines 34.5kV and  
19 greater on a six-year cycle. The year prior to the plan year, NYSEG and RG&E  
20 transmission vegetation management foresters conduct a span by span field assessment of  
21 the transmission cycle line work that will take place in the plan year (the following year).  
22 Transmission lines are annually aerial patrolled for priority 1, priority 2, and hazard trees

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as defined in the Companies’ TVMP. A ground patrol of all 345kV, 230kV and critical 115kV lines is done annually as well.

Reports that come in from the aerial patrols are field checked for the degree of hazard and are prioritized based on that field assessment. Priority 1 conditions are scheduled as soon as possible for reliability and safety. Conditions that warrant immediate attention that are discovered by the foresters in their field assessments are scheduled quickly and the remainder are taken care of during routine maintenance.

Currently, NYSEG and RG&E spending for transmission line hazard tree removal and edgework is approximately \$3.2 million and \$400,000, respectively. RG&E requests an additional \$700,000 per year in rates to perform additional hazard tree removals.

Q. What are the projected annual expenditure requirements for the TVMP at NYSEG and RG&E over the next five years?

A. The projected annual expenditure requirements for NYSEG’s and RG&E’s TVMPs over the next five years are shown in Tables 5 and 6 below.

Table 5: NYSEG TVMP Cost Estimates  
(dollars in millions; includes adjustments for inflation)

May 2020 - Apr. 2021	May 2021 – Apr. 2022	May 2022 – Apr. 2023	May 2023 – Apr. 2024	May 2024 – Apr. 2025
\$6.4	\$6.4	\$6.5	\$6.7	\$6.8

Table 6: RG&E TVMP Cost Estimates  
(dollars in millions; includes adjustments for inflation)

May 2020 - Apr. 2021	May 2021 – Apr. 2022	May 2022 – Apr. 2023	May 2023 – Apr. 2024	May 2024 – Apr. 2025
\$2.0	\$2.1	\$2.1	\$2.2	\$2.3

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**V. INCREMENTAL VEGETATION MANAGEMENT STAFFING**

1  
2 Q. Is NYSEG proposing to add additional positions to implement its proposed full-cycle  
3 distribution vegetation management program?

4 A. Yes. NYSEG proposes to add one distribution vegetation management manager to  
5 provide necessary oversight of the expanded distribution program, which is not reflected  
6 in the vegetation management costs presented by this Panel. Additionally, NYSEG  
7 proposes an additional 10 full-time equivalents (“FTEs”) for the duration of the first  
8 cycle reclamation period.

9 Q. Are the costs of these resources included in the Companies’ proposals?

10 A. Yes. The additional manager is reflected in the labor FTEs included in the testimony of  
11 the Companies’ Workforce, Compensation and Benefits Panel, and the related costs are  
12 included in the NYSEG’s revenue requirements as labor. The costs associated with the  
13 10 additional FTEs are included in the costs shown in Tables 1 and 4 above in this  
14 Panel’s testimony.

**VI. EMERALD ASH BORER**

15  
16 Q. In its testimony associated with Cases 15-E -0283 et al., the Companies raised the issue  
17 of Emerald Ash Borer (“EAB”) infestation. Have there been any updates to this situation  
18 that the Companies would like to elaborate on?

19 A. Yes. Emerald Ash Borer continues to manifest itself in the Companies’ service  
20 territories. The Companies continue to address this issue, in a reactionary mode,  
21 removing trees that are well into structural decline.

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1 Q. Do the Companies have sufficient budgets to effectively mitigate EAB infestation by  
2 proactively removing ash trees?

3 A. No. The Companies currently fund EAB mitigation through their hot spot/unit hazard  
4 tree general funds. However, the funds available currently in rates are not sufficient to  
5 effectively proactively mitigate the problem by removing ash trees prior to obvious  
6 structural decline.

7 Q. Do the Companies have a projection of what the cost would be to proactively mitigate the  
8 EAB problem?

9 A. Yes. ECI in its workload study estimated that 10.5% of the trees on the NYSEG  
10 distribution system, and 10.9% of the trees on the RG&E system are ash species. That  
11 equates to about 299,000 trees. At a unit price of about **BEGIN CONFIDENTIAL**  
12 **INFORMATION** < [REDACTED] > **END CONFIDENTIAL INFORMATION**, the annual  
13 requirements to mitigate the problem would be about **BEGIN CONFIDENTIAL**  
14 **INFORMATION** < [REDACTED] > **END CONFIDENTIAL INFORMATION**  
15 (including tax without CPI) for the Companies' distribution system, as shown in  
16 Exhibit \_\_ (VMP-5).

17 Regarding the transmission system, since it is about 1/5 the length of the  
18 distribution and the width of the ROW is about 5-10x the distribution system, a rough  
19 estimate of the scope of the issue on transmission is 8,000 trees, which would equate to  
20 an annual removal estimate of **BEGIN CONFIDENTIAL INFORMATION**  
21 < [REDACTED] > **END CONFIDENTIAL INFORMATION**.

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1 Q. Is it likely that all the ash trees in New York will fail within the next 10 years?

2 A. Most experts agree that all ash trees in impacted areas will fail within 5-10 years. In fact,  
3 the 2018 Staff Storm Report notes in a footnote on page 165 that “Emerald Ash Borer is  
4 an aggressive invasive species that will result in 100 percent mortality of ash trees. Ash  
5 trees are often found dead or in a state of decay due to the Emerald Ash Borer throughout  
6 western and southern New York.”

7 Q. How do the Companies recommend addressing the revenue requirements to address this  
8 issue?

9 A. This question is addressed by the Revenue Requirements Panel.

10 Q. Does that conclude your testimony at this time?

11 A. Yes, it does.