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November 17, 2023

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

Re: Biennial Inspection, Maintenance, Repair and Replacement Plan for Metropolitan Edison Company for the period of January 1, 2025 – December 31, 2026
Docket No. M-2009-2094773

Dear Secretary Chiavetta:

Enclosed please find Metropolitan Edison Company's responses to the data requests issued on November 2, 2023, in the above-referenced matter.

Should you have any questions or concerns regarding this information, please feel free to contact me.

Very truly yours,

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cc: Harry Bidelspach – PaPUC Bureau of Technical Utility Services (via electronic mail)

QUESTION 1

Reference Met-Ed's I&M Plan, Vegetation Management Section

a. The Commission notes that, as shown in the last three Joint Annual Reliability Reports for the FirstEnergy Companies,[1] which includes Met-Ed, Met-Ed's reliability performance has not improved and in the case of CAIDI and SAIDI has worsened over those last three years and both CAIDI and SAIDI are above the 12-month rolling quarterly Standard for 2021 and 2022. Provide a detailed explanation of how the proposed four-to-eight-year cycle clearance will improve reliability performance.

b. Provide a copy of the vegetation management work practices or procedures, including trimming and herbicide specifications, for Met-Ed.

Response:

a. Met-Ed (the 'Company') does not intend to arbitrarily adjust maintenance cycles in the vegetation management program (the 'Program'). Instead, the Company continues to explore emerging technologies that can enhance system reliability and improve customer service. These new technologies could allow the Company to extend some maintenance cycles, which would allow for resources to be shifted to areas with greater need.

An example of the type of emerging technology currently under investigation by the Company is the vegetation analytics tool. In 2024, the Company will begin piloting a vegetation analytics tool that utilizes remote sensing along with machine learning technologies to help enhance operational pre-planning of our vegetation management activities. The vegetation analytics tool will be able to provide users with detailed system conditions along with the ability to create strategic trim plans through its optimized circuit risk and outage probability modeling. Comprehensive model performance studies along with system reliability analysis will continue through 2024 prior to any systemwide implementation. Using this type of technology, Met-Ed would expect an incremental positive impact on reliability with the opportunity to prioritize more reliability focused activities.

Emerging technologies can help monitor and refine vegetation management strategies for circuit and cycle work models through remote sensing and analytics. The Company anticipates, by integrating such technologies into its Program, it may be able to

[1] All filed to Docket No. M-2016-2522508 and which includes the reliability data for calendar years 2020 through 2022.

optimize maintenance cycles, allowing for resource allocation to areas that will provide the greatest impact to safety, reliability, and controlling long-term spend while at the same time achieving regulatory compliance. While the Company does not intend a complete overhaul of its maintenance cycle, the proposed amendment better aligns the Company's Program with 52 Pa. Code §57.198 and accommodates the anticipated future benefits from emerging technologies.

b. See Attachment A for excerpts of Met-Ed's vegetation management work practices and procedures as they apply to trimming and herbicide specifications.

QUESTION 2

Reference Met-Ed's I&M Plan, Distribution Overhead Line Inspections Section

a. As noted in 1.a. above, Met-Ed's reliability performance is not improving. Provide a detailed justification for the continuation of the waiver for Distribution Overhead Line Inspections, given that reliability performance has not improved.

Response:

a. Met-Ed visually inspects overhead equipment to identify unsafe conditions or conditions that may adversely affect service reliability or system performance.

Met-Ed has assessed the current overhead inspection program in the past and has determined that inspections are proactively identifying system issues that need remediation, but inspection limitations were identified. The visual inspections are completed from ground level and focus on identifying visible signs of issues, damage, or degradation, but they will not reveal internal problems/equipment damage. Increasing the periodicity of inspections would not enable Met-Ed to identify these types of internal issues.

Met-Ed's current overall SAIFI trend has been trending upward, however the trends relating to equipment and line failures have been trending downward. Met-Ed's Line/Equipment overall SAIFI has improved 34% and has seen a 27% improvement for blue-sky days distribution Line/Equipment when comparing YTD Oct 2023 to the same time period in 2018. Met-Ed continues to address the system degradation due to aging infrastructure through its LTIIP strategy.

QUESTION 3

Reference Met-Ed's I&M Plan, Distribution Transformer Inspections Section

a. As noted in 1.a. above, Met-Ed's reliability performance is not improving. Provide a detailed justification for the continuation of the waiver for Distribution Overhead Line Inspections, given that reliability performance has not improved.

Response:

a. Met-Ed visually inspects transformers during overhead and underground inspections to identify unsafe conditions or conditions that may adversely affect service reliability or system performance.

Met-Ed has previously assessed the program it currently uses to inspect overhead and underground equipment and has determined that inspections are identifying system issues that require remediation, but inspection limitations were identified. The visual inspections are completed from ground level and focus on identifying visible signs of issues, damage, or degradation. The visual inspection will not reveal internal problems/damage with equipment. Increasing the periodicity of inspections would not enable Met-Ed to identify these types of internal issues.

Met-Ed's current overall SAIFI trend has been trending upward, however the trends relating to equipment and line failures have been trending downward. Met-Ed's Line/Equipment overall SAIFI has improved 34% and has seen a 27% improvement for blue-sky days distribution Line/Equipment when comparing YTD Oct 2023 to the same time period in 2018. Met-Ed continues to address the system degradation due to aging infrastructure through its LTIIP strategy.

[redacted]

18 SUB-TRANSMISSION VOLTAGE CLEARANCE REQUIREMENTS

FirstEnergy operates sub-transmission voltages from 19.9kV up to but not including 69kV.

18.1 Clearances

All vegetation management activities shall be performed to achieve a minimum fifteen feet (15'), four (4) or five (5) years of clearance from FirstEnergy Sub-transmission voltage conductors based on tree species and growing conditions.

18.2 Overhanging Limbs

All vegetation overhanging the sub-transmission corridor shall be pruned back to the main stem.

18.3 Clarifications for New Jersey 34.5kV

In New Jersey, where 34.5kV facilities are within the Transmission Corridor, entire Corridor will be managed on the TVM cycle.

For 34.5kV cable construction in New Jersey, vegetation shall be pruned to provide a minimum of five (5) feet of clearance from the cable or equipment. Any growth within five (5) feet should be pruned back to the main stem. If the tree cannot be pruned in this manner it should be removed.

19 DISTRIBUTION PRIMARY VOLTAGE CLEARANCE REQUIREMENTS

Primary conductors reside between the Distribution Substation and a Distribution Transformer.

19.1 Clearances

All vegetation management activities shall be performed to achieve a minimum of cycle length clearance from FirstEnergy primary conductors based on tree species and growing conditions. Cycle length is four (4) or five (5) years. In cases where cycle length clearance is unattainable, twelve (12) feet of clearance shall be achieved.

19.2 Overhanging Limbs

Incompatible vegetation overhang in the Distribution Clearing Zone shall be pruned back to the main stem. Incompatible vegetation overhang above the Distribution Clearing Zone shall be addressed if specified by FirstEnergy. In all cases, when pruning for overhang clearance, dead or structurally weak limbs which could fall or blow into the conductors shall be removed.

19.3 Structures with Fuses or Disconnects Attached

Regardless of tree species, when performing cycle maintenance, structures with fuses or disconnects must have all woody vegetation cleared with an eight (8) foot radius of the fuse/disconnect side of the structure unless otherwise directed by FirstEnergy.

19.4 Multiple Circuits on Same Structure

When pruning for an individual tree on an assigned circuit, the Contractor must clear for all circuits on the same structure. Clearance distance shall be dictated by the highest voltage present and type of construction.

20 DISTRIBUTION SECONDARY VOLTAGE CLEARANCE REQUIREMENTS

Secondary conductors reside between the transformer pole and the final pole on the line. Service conductors reside from the final pole on the line to the customer's attachment.

20.1 Open Wire and Triplex Secondary Conductors and Services

Branches that are contacting secondary and service conductors are to be pruned to achieve four (4) feet of clearance or eliminate mechanical strain, displacement, or abrasion of the conductor. Parent branches and the main tree trunk may remain, providing that the branches and the tree are not mechanically straining, displacing, or in direct contact with the conductors. Large limbs in excess of 3-inches in diameter that are contacting the conductor and creating mechanical strain, displacement or abrasion shall be reported in writing to FirstEnergy.

20.2 Street Light Wire and Luminaries

This work is only required as directed by FirstEnergy. When required, branches contacting streetlight wires shall be pruned to provide at least one (1) foot of clearance. The clearing zone for streetlight luminaries extends five (5) feet from, and 360^{o} around, the luminary horizontally. The area below the luminary shall be cleared in the manner of a cone with 45^{o} sides.

21 VEGETATION MANAGEMENT METHODS

21.1 Tree Pruning

All pruning shall be done in accordance with modern arboriculture standards using the current ANSI 300 Standards and Amendments. Directional pruning is the preferred method of line clearance pruning. Whenever possible, the Contractor shall obtain clearance in this manner. Pruning cuts are to be made back to the main stem or to a lateral branch which is at least one-third (1/3) the diameter of the portion being removed. Limbs shall not be stubbed off at the edge of the distribution corridor. Pruning shall be done in a manner that will promote growth away from the power lines.

A minimum number of cuts shall be utilized to achieve required clearances. Where practical, cuts should be primarily restricted to large diameter branches, made well within the crown. Shaping using small diameter branches in the outer crown shall be avoided. Cuts are to be made outside the branch bark ridge leaving no stub. Precautions shall be taken to avoid stripping or tearing of bark when cutting limbs. All severed twigs, branches and limbs shall be removed from pruned trees.

The practices known as "shearing," "stubbing," "pollarding," or "rounding over" shall be avoided. Exceptions to drop crotch and directional pruning techniques shall be used only when indicated as being acceptable by FirstEnergy. Pruning performed by mechanical means (i.e. by mechanical pruning equipment or helicopter saw) must be pre-approved by FirstEnergy.

In cases where incompatible vegetation is not removed or chemically controlled, vegetation shall be pruned following
directional pruning methods and as further defined in the current ANSI 300 Standards and Amendments. If a tree cannot be
pruned properly, the tree should be removed.

Down and span guys are to be freed of weight, strain or displacement because of pressure caused by contact with tree parts.

All brush and trees shall be cleared away from all structures at the ground line to a distance of three (3) feet, unless otherwise specified by FirstEnergy.

Vines growing on poles, towers and guy wires will be cut at the ground line and as high as can be safely reached from the ground. Stumps of vines will be treated using an approved cut surface treatment. Notification to the property owner shall be given prior to removing cultivated vines. All noxious vines growing on poles, towers, and guys are to be treated with an appropriate herbicide. Notify FirstEnergy of all vines entwined in electrical equipment.

Communication conductors owned by FirstEnergy shall be maintained to the same clearance as secondary voltages, or as directed by FirstEnergy. Allowance shall be made for wire sag and blowout due to extreme weather conditions and high winds.

Antennas, their supports, or other objects are to be reported to FirstEnergy when attached to or in a tree such that their placement or maintenance has or would cause someone to be in close proximity to the conductor.

21.2 Priority Trees

Priority trees are defined as tree(s) located adjacent to the Distribution Clearing Zone that are either dead, diseased, declining, structurally compromised, severely leaning, or significantly encroaching onto the Clearing Zone. These trees shall be maintained as directed by FirstEnergy.

- Fraxinus species (commonly known as Ash), dead or alive, may be considered priority trees.

21.3 Tree Removal

A woody plant six (6) inches in diameter at four and one-half (4.5) feet above the ground will be considered a tree for purposes of recording. All growths less than this measurement will be considered brush. Multiple trunks originating from the same common root crown that split below DBH and are six (6) inches or greater shall be counted as separate trees.

Trees that are expected to be removed or controlled are:

- Incompatible trees located within the clearing zone or corridor
- Dead or defective which pose a threat to the conductor
- Immature trees, generally classified as brush
- All priority trees located adjacent to the clearing zone corridor

All trees removed shall be cut as low as practical, no higher than three (3) inches from and parallel-to the ground line except where other treatment is designated by mutual agreement with property owners or public authorities. All live stumps (except conifers) shall be treated with a FirstEnergy approved herbicide.

Trees that are not to be removed are:

- Trees that affect only a service drop or secondary lines
- Trees that will not affect FirstEnergy facilities
- Trees that if removed only benefit streetlight illumination

21.4 Brush Removal

Brush that is interfering with the conductor or may grow to such height that will interfere with the conductor shall be removed and/or treated with an herbicide. The Contractor shall remove all incompatible brush and shall not prune brush. All brush removals shall be cut as low as practical, no higher than three (3) inches from and parallel to the ground line.

Mowing of brush in the clearing zone or corridor may be utilized, at times, for sites where vegetation heights and densities exceed requirements for other vegetation management methods or in cases where there are landowner herbicide refusals. Mowing of brush on the clearing zone corridor by use of a mechanical brush cutter is only permitted with prior authorization of an authorized FirstEnergy representative.

Mowing shall be performed as specified by FirstEnergy. Mowing may be required on company-owned properties that are subject to local maintenance ordinances.

21.5 Herbicide Brush Control

The Contractor shall use the proper and appropriate herbicide treatment in accordance with the FirstEnergy Guide to Vegetation Control with Herbicides (Exhibit 12).

- FirstEnergy expects the control of all incompatible vegetation that is less than six (6) inches in diameter within the clearing zone or corridor, including all fence rows and tower/pole bases, with herbicides to achieve a minimum of 95% control 14 months after application.
- Vegetation treated shall not exceed an average height of twelve (12) feet, unless otherwise directed by FirstEnergy.
- If herbicides cannot be applied, methods such as mowing and hand cutting should be used to affect all incompatible vegetation within the clearing zone or corridor including all fence rows and tower centers.
- In cases where the use of herbicide is limited, FirstEnergy expects incompatible vegetation on the corridor to be controlled, with the cut surface treatment being the minimum chosen treatment.
- In cases where a landowner will not allow at least the minimum treatment, the Contractor will consider this a refusal and provide the required refusal information on the Form 418 (Exhibit 6) to FirstEnergy.
- It shall be the responsibility of the Contractor to inspect the treated clearing zone corridor within one month of treatment and re-treat those areas which have received incomplete application. Documentation will be required showing inspection dates, inspector name, treatment dates, and re-inspection dates.
- The year following the initial herbicide treatment FirstEnergy will perform an inspection. FirstEnergy will determine the necessity for re-treatment. The general criteria for re-treatment of bush are reduction of brush density and reduction in average height of brush. The Contractor shall achieve a minimum of 95% control in each span on the entire clearing zone corridor one growing season after application.
- Any additional herbicide work identified during the inspection must be completed within 30 days, by the method deemed most effective and prescribed by FirstEnergy.
- Areas left untreated by the Contractor or do not pass inspection shall be done at no additional cost to FirstEnergy.
- The herbicide treatment and Inspection process shall be followed unless otherwise directed by FirstEnergy.

[redacted]

FirstEnergy Guide to Vegetation Control with Herbicides

Brush Control with Herbicides:

1. All herbicides shall be applied in accordance with the manufacturer's label instructions and in accordance with all federal, state and local laws governing the use of herbicide.
2. Upon request, the Contractor shall supply daily herbicide records to FirstEnergy.
3. All Contractors shall implement the Closed Chain of Custody (CCC) Specification for Herbicides (see CCC Supplemental Specification), unless otherwise directed by FirstEnergy in writing.
4. Vegetation that will never interfere with the conductors or the operation and maintenance activities of the line should not be treated (within the capability of the application method used). In cases where a 15' access lane is being maintained for the duration of the maintenance cycle; it will be necessary to treat vegetation that impedes access.
5. The Contractor should be aware of the hazards that certain plants, such as black cherry, present to livestock, and should take the necessary precautions to eliminate the exposure of livestock to plants after treatment.
6. Contractor shall have sole responsibility for any Release of Hazardous Substances which is caused by or attributable to the Work. In performing its obligations under the Agreement Contractor shall be in compliance, at all times, with all Environmental Laws (defined below) including, without limitation, complying with permitting and reporting obligations, providing for access restrictions and warnings, manifesting, cleanup, removal, remediation, decontamination. For purposes of the Agreement:
   a. "Environmental Laws" means all federal, state, and local laws, regulations, rules, guidelines or guidance documents, directives, ordinances, standards, orders, or judgments, now in effect or hereafter enacted, promulgated, issued, or amended pursuant to, or on authority of, any legislative, administrative, judicial, or executive act of any jurisdiction, and judicial or administrative interpretations thereof, relating to environmental matters including, but not limited to, herbicide/pesticide control laws, occupational safety and worker right-to-know laws; provisions pertaining to or regulating air or water pollution, wetlands, watercourses, Hazardous Substances, hazardous and solid wastes, community right-to- know laws, laws pertaining to the transportation of Hazardous Materials, and laws otherwise intended to protect worker health and safety, protect community health and safety, or improve or maintain environmental quality.
   b. "Hazardous Substances" means chemicals, substances, wastes, contaminated soils, or materials, in gaseous, liquid, semisolid, or solid form which, as a result of their past, present or future presence, pose a present or potential threat to, or cause actual harm to, human health or the environment, whether or not exposure occurs in a manner that is reasonably intended or anticipated. The term includes, but is not limited to (i) "solid" and "residual" waste as those terms are defined by the Federal Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901 et seq., and analogous state laws; (ii) "hazardous substances," as defined by the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), now amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42

U.S.C. 9601 et seq., and analogous state laws; (iii) "hazardous wastes," as defined by RCRA and analogous state laws; (iv) "toxic substances" regulated by the Toxic Substances Control Act ("TSCA"), 15 U.S.C. 2601 et seq. and analogous state laws; (v) "hazardous materials," as defined by the Hazardous Materials Transportation Act, 49 U.S.C. 1802 et seq. and analogous state laws; (vi) asbestos and asbestos-containing materials, in any form, whether friable or non-friable; (vii) polychlorinated biphenyls (PCBs); and (viii) petroleum or other petroleum by-products.

c. "Release" or "Discharge" means spilling, leaking, pumping, pouring, emitting, emptying, seeping, injecting, escaping, leaching, illegally disposing, or dumping.

7. The Contractor shall hold the necessary credentials, for applying herbicides, within the state the work will be completed.
   a. The Contractor shall hold all appropriate herbicide/pesticide license(s) from the state(s) they are working in and provide documentation to FirstEnergy in accordance with the CCC Supplemental Specification.
      i. The Contractor shall also conform to all federal laws governing the pesticides used, including, but not limited to Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 135).
   b. Apply the herbicide under the direct supervision of a state certified/licensed commercial applicator, and in accordance with the manufacturer's label.
8. The following precautions shall be used on the rights-of-way (ROW):
   a. Use as low a pressure as possible.
   b. Apply herbicide down the ROW, not across it.
   c. Follow H pattern for High Volume Foliar applications
      i. See Glossary for H-pattern definition and illustration
   d. Keep spray nozzles below the horizontal as much as possible.
   e. Use adjuvants as required by manufacturer's label, i.e., drift control agents, etc., when performing foliar application.
   f. Use appropriate application method when adjacent to cultivated crops that are sensitive to the herbicide being used.
   g. Try to use Amine formulation of herbicides during hot weather when leaves are out and Ester formulation of herbicides during late fall, winter, and early spring.
   h. Herbicide formulation and/or applications on roadside vegetation is to be timed or done in a way that reduces the "brown out" appearance.
9. The Contractor shall take necessary measures and precautions to avoid spills during handling and transporting of herbicides.
10. Pump equipment used to pump or mix herbicide materials shall not be used to pump water from streams or ponds into the spray tanks. A separate pump shall be provided by the Contractor for this purpose, and an air gap should be left above the tank to prevent tank contents from siphoning into water source.

11. Empty herbicide containers shall be triple rinsed using the following procedure (see manufacturer's label) Only to be used if unable to comply with the CCC Supplemental Specification, and exception is approved by FirstEnergy; follow manufacturer's label requirements for disposal of containers:

    Step 1: Empty the container contents into spray tank (If supporting the partially filled drum presents a physical problem, an intermediate pan or pail may be used. These latter items should then be treated as herbicide containers) by holding container in a vertical position and wait one minute for 30 gallon and 55-gallon containers and 30 seconds for containers smaller than 30 gallons. If container is still dripping after waiting the required time, continue to wait until most of the dripping has stopped.

    Step 2: Rinse container by adding water or oil, depending on the carrier is being used with the herbicide, to fill herbicide container 1/4 full. Replace and tighten closures; make sure the container's caps are secured in place. Shake or roll container, depending on the size, ensuring at least one complete revolution, for 30 seconds. Tip the container over on each end, tipping back and forth several times on each end.

    Step 3: Empty the container's contents into the spray tank and drain for the appropriate length of time (see Step 1).

    Step 4: Repeat Steps 2 and 3 two more times.

12. Herbicides not registered for use in water when used in a foliar application or used with an oil carrier, shall not to be applied into any water source, such as lakes, streams, ponds, or reservoirs. Contractor shall apply according to the manufacturer's label and comply with all appropriate federal and state requirements when applying herbicides.

    a. **Incompatible Vegetation on the bank or overhanging a lake, stream, pond, or reservoir** is to be mechanically cut and treated, if the vegetation is not in the water, per manufacturer's label and the appropriate federal and state requirements. When applying herbicides near streams, lakes, ponds, and reservoirs, the applicators should have their back towards the water. At no time is it permissible for non-aquatic herbicides to be applied to or drift into lakes, streams, ponds, reservoirs, or directly to water.

Herbicide Prescriptions:

There are several control options that are considered Best Management Practices (BMP). This is a way to choose the control option based on the site conditions. The main variables that drive the control option are determined by terrain, brush height, and density.

Incompatible Brush Density			
Density	**Height**	**Amount**	**Example**
Low Density	< 8 Feet	≤ 1,000 stems /acre	Easy Walk through in straight line
Medium Density	8 – 12 Feet	1,000 – 3,000 stems/acre	Possible to walk through with outstretched arms
High Density	> 12 Feet	≥ 3,000 stems/acre	NOT possible to walk through with outstretched arms

Below are suggested methods for choosing the right prescription for herbicide treatment. All applications shall be made as follows, unless otherwise directed by FirstEnergy:

1. High volume foliar (HVF) applications:
   a. Apply during the period June 1 to September 1.
   b. The vegetation to be treated shall generally not exceed an average height of 12' unless otherwise directed.
   c. The herbicide mixture shall be applied to completely wet the entire leaf, stem, and trunk surface of each plant to the point of runoff.
   d. Foliar applications shall not be applied within 30 minutes after fog, dew, or rain that is heavy enough to cause run-off of water on the leaves of the plant. Foliage treated 30 minutes or less prior to such fog, dew, or rain should be considered for re-treatment, but not until 30 minutes after the fog, dew, or rain has stopped.

      *Note: If performing HVF applications in **New Jersey**, refer to the current NJDEP 5-year permit for additional information.*
   e. Foliage application on roadside Distribution lines shall only be made with Krenite unless otherwise directed by FirstEnergy. Krenite can be used starting July 15.
   f. Consider these criteria when selecting HVF applications:
      i. Site has never been treated or has been left unattended for a long period of time.
      ii. High volume applications usually cover large areas with a lot of terrain in a short amount of time.
      iii. This control method is best suited for medium to high density incompatible species. Vegetation heights are greater than 6' to 8' in general and shall not exceed an average height of 12'.
      iv. Application rates will vary depending on plant species, densities, and herbicide mixture, but usually require 100 to 400 gallons of total volume per acre; apply according to the manufacturer's label.
      v. HVF is a ground broadcast treatment using a wide variety of nozzle sprayer systems mounted on trucks, argos, bombardier, skidders, or tractor-like equipment with tanks. This method of application targets all vegetation on the ROW.
      vi. HVF Select (S-Select) is a selective hydraulic ground treatment treating individual stems and plants using hydraulic-powered handguns mounted on trucks, argos, bombardier, skidders, or tractor-like equipment with tanks. This is a more selective high-volume application best suited for medium density rather than high.
2. Low Volume Foliar (LVF) applications:
   a. Apply after full leaf development and up to fall leaf coloration.
   b. The vegetation treated, in general, shall not exceed an average height of 8'.
   c. The incompatible vegetation shall be treated utilizing nozzles identified on the manufacturer's label. Tank pressure should be sufficiently maintained to provide the desired spray pattern. It should not produce fine mists, but rather produce coarse, raindrop-like droplets.

d. The technique should wet the surface of the leaves of the entire canopy of the brush being treated. Do not treat to the point of run-off. A back and forth motion beginning from the top of the canopy and moving downward to the lowest leaves is most effective. The entire plant needs to be treated for best results. Avoid over-shooting plants. Stand 5' – 15' away from the stem being treated. This allows the spray pattern to become fully developed and fall onto the leaf surfaces, rather than shooting through the plant canopy and onto compatible vegetation in the understory, or only treating one side of the canopy.

e. Foliar applications shall not be applied within 30 minutes after fog, dew, or rain that is heavy enough to cause run-off of water on the leaves of the plant. Foliage treated 30 minutes or less prior to such fog, dew, or rain should be considered for retreatment, but not until 30 minutes after fog, dew, or rain has stopped.

f. Consider the following criteria when selecting LVF applications:

   i. The objective is to keep the shrubs and saplings from repopulating after initial reclamation.

   ii. The site requires routine maintenance.

   iii. Stem densities fewer than 1,000 stems/acre (low density) and height of vegetation is lower than 8'.

   iv. This is the preferred treatment of a site that borders sensitive areas or crops.

   v. Application rates will vary depending on plant species, densities, and herbicide mixture, but usually require 5 to 30 gallons of total volume per acre; apply according to the manufacturer's label.

   vi. LVF can be ground broadcast, selective hydraulic, and/or selective backpack treatments:

      1. LVF applications are more selective and typically applied with small ATV's or backpack sprayers. This method of application targets specific incompatible species by spraying the herbicide directly on the foliage of the target vegetation. For best results, LVF should be considered for medium to low density incompatible brush.

3. Ultra-Low Volume Foliar (ULVF) applications with Emulsifier (Thinvert):

ULVF can be used for selective backpack treatments or calibrated broadcast applications. Both methods of this application use Thinvert as a carrier and surfactant to aid in the uptake in the plant and is a consideration when fresh water is a limitation. The nozzles and spray gun used shall be in accordance with Thinvert's manufacturer's label.

a. ULVF backpack applications targets specific incompatible species by spraying the herbicide directly on the foliage of the target vegetation.

   i. The criteria for the ULVF backpack applications is the same as LVF applications, but access or water is limited.

   ii. The technique should simulate an aerial application with only a few drops for each leaf over the entire canopy of the brush stem being treated.

b. ULVF Calibrated broadcast applications can be done using a Radiarc, Boom Systems, Wide Cast Nozzle, etc., when you have high density incompatible vegetation that is lower than 8'

i. ULVF can also be used when areas have been mowed and allowed to re-sprout for herbicide application, i.e., cut stubble treatment.

c. Consider these criteria when selecting ULVF applications:

i. This most often becomes an option when medium to high density brush is mowed during the dormant season or the prior growing season and allowed to re-sprout. The approved mixture for this application, ULVF2, has higher rates of active ingredient as the product may not reach the entire crown of each plant during application.

ii. Areas where access is limited or high visibility areas.

iii. Application rates will vary depending on plant species, densities, and herbicide mixture, but typically require 5 gallons of total volume per acre or less; apply according to the manufacturer's label.

4. Basal applications of herbicides:

a. Consider these criteria when choosing Low Volume Basal applications:

i. This control option may be used in highly visible areas and sometimes is the only method allowed in sensitive areas such as parks or large tracts of government land use.

ii. Prescribed for areas in agricultural use prior to crop cultivation.

iii. This method is a secondary option for use on herbicide refusals.

b. The herbicide shall not be applied when the stem and trunk are excessively wet, or the ground is frozen.

c. Application shall be used during late fall, the dormant season, and before leaf out in the spring.

d. The herbicide mixture shall be applied to the stem and trunk so as to wet the entire surface of the stems or trunk from the root crown up the stem 12 – 18 inches, using nozzles identified on the manufacturer's label. Treat to the point of wetness but not to puddling at base.

e. All obstructions such as tall grass, dead leaves, etc., will be cleared away from the stem to be treated.

f. All evergreen tree species over 3' in height should be cut. Those under 3' in height shall be treated over their complete height, including all needles, twigs and stems, in addition to the basal treatment covered in this guideline.

g. Control results will be slower than with a foliar application.

5. Stump applications of herbicides with a water carrier mix:

a. The herbicide mixture shall not be applied when the stumps are excessively wet or later than 8 hours after cutting, or when temperatures are below freezing.

b. The herbicide mixture shall be applied to the freshly cut stump to completely wet the cambial area, which is the area next to the bark.

c. All visible stumps, except stumps of coniferous species (except Pitch Pine), dead trees, and those hardwood species that will never interfere with the line, should be treated.

d. Typically, only used for known refusal or restricted herbicide use areas, tower sites, etc.

6. Stump applications with oil carrier mixes (such as with Basal Mineral Oil and Garlon 4):
   a. Stumps are to be treated the same day that the vegetation is cut.
   b. The herbicide mixture shall be applied to the stump to wet the cambial area, the bark area, root crown, and any exposed roots.
   c. All visible stumps, except stumps of coniferous species (except Pitch Pine), dead trees, and those hardwood species that will never interfere with the line, should be treated.
7. Frill or Hack and Squirt herbicide applications:
   a. Frills are to be made with a sharp cutting tool (hatchet, axe, brush axe, etc.) to overlap and cover the circumference of the stem.
   b. Frills are to be made at a 45-degree angle and convenient working height but shall always be below 3' high and below the first branch.
   c. Where multiple stems originate from a common stump, each stem is to be treated individually instead of treating the common stump.
   d. Frills should be deep enough to expose the maximum amount of conductive tissue to the herbicide applied.
   e. Herbicide is to be applied to the lip or flange of the frill, to only wet the cut surfaces.
8. Cut Stubble Treatment Method:
   a. As a broadcast treatment made over areas that were just mowed.
   b. These areas could have been mowed for access or because vegetation was too dense or too tall to foliar treat.
   c. Application must be made as soon after mowing as possible, and before re-sprouting begins.
   d. Application cannot be made when ground is frozen or saturated.
   e. Buffer strips along the edges of the ROW may be needed, depending on mix, location, off target species, etc.
   f. If buffers are needed, the incompatible vegetation is still expected to be controlled by other means.
   g. The manual cutting or mechanical mowing of brush shall be done in accordance with the DVM or TVM Specification.
   h. Proper coverage of the cut stubble and soil surface shall be made to provide the required spray volume per acre, as indicated by the manufacturer's label.
      i. Equipment must be properly calibrated in order to meet the targeted volume per acre. This calibration should occur with water in the tank, off the ROW.
9. Bare Soil Treatment herbicide applications:
   a. Apply herbicide in spring or early summer before weeds are 3 to 4 inches tall, or per the manufacturer's label.

b. Apply herbicide only to areas where complete vegetation control is desired, i.e., gravel areas in substation yards, pole yards, storage areas, etc.

c. Apply herbicide mix to only wet gravel surface.

10. Aerial Broadcast (AB) Applications:

a. Apply during the period June 1 to September 15.

b. Consider these criteria when selecting AB applications:

i. Areas where access is limited.

ii. Site has never been treated or has been left unattended for a long period of time.

iii. AB applications usually cover large areas with a lot of terrain in a short amount of time.

1. This control method is best suited for high density incompatible species.

11. The Contractor is to notify FirstEnergy, in accordance with Incident Report Section of the DVM or TVM Specification, of misapplication and chemical spills immediately, and is to follow notification procedures and instructions on the product manufacturer's label, Safety Data Sheet (SDS), and state and federal guidelines. The Contractor is to document cleanup activities and progress of incident and provide this information to FirstEnergy in writing.

12. When herbicide application is refused, or when an area is intentionally left untreated, the Contractor shall communicate directly with FirstEnergy.

a. TVM refusal information:

i. Contractor shall notify FirstEnergy and update TVM application within one week.

ii. If the TVM Application is unavailable, this information can temporarily be placed on Form 418.1 and then entered into the TVM Application when available. The Contractor shall follow the procedure for refusals and areas left untreated in accordance with the Refusal Process of the TVM Specification (Section 18.3) and utilizing the Refusal Process flowchart (Exhibit 14).

b. DVM refusal information:

i. Contractor shall notify FirstEnergy in writing via the Work Refusal Form 418.1.

ii. The Contractor shall follow the procedure for refusals and areas left untreated in accordance with the Refusal Process of the DVM Specification (Section 13).

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSON

BIENNIAL INSPECTION, MAINTENANCE, REPAIR AND REPLACEMENT PLAN FOR METROPOLITAN EDISON COMPANY FOR THE PERIOD OF JANUARY 1, 2025 – DECEMBER 31, 2026	:	**Docket No.: M-2009-2094773**

VERIFICATION

I, Ronald J Long Jr, state that I am an Acting Director, Distribution Engineering Support, at FirstEnergy Service Company; that I am authorized to make this Verification on behalf of Metropolitan Edison Company and that the facts set forth are true and correct to the best of my knowledge, information and belief. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Date: November 17, 2023

Ronald J Long Jr.