SRRTEP Committee: Mid-Atlantic Committee
PPL Supplemental Projects

October 21, 2019

Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

PPL Transmission Zone M-3 Process
Macungie 69kV Tap

Need Number: PPL-2019-0001

Process Stage: Solutions Meeting October 21, 2019

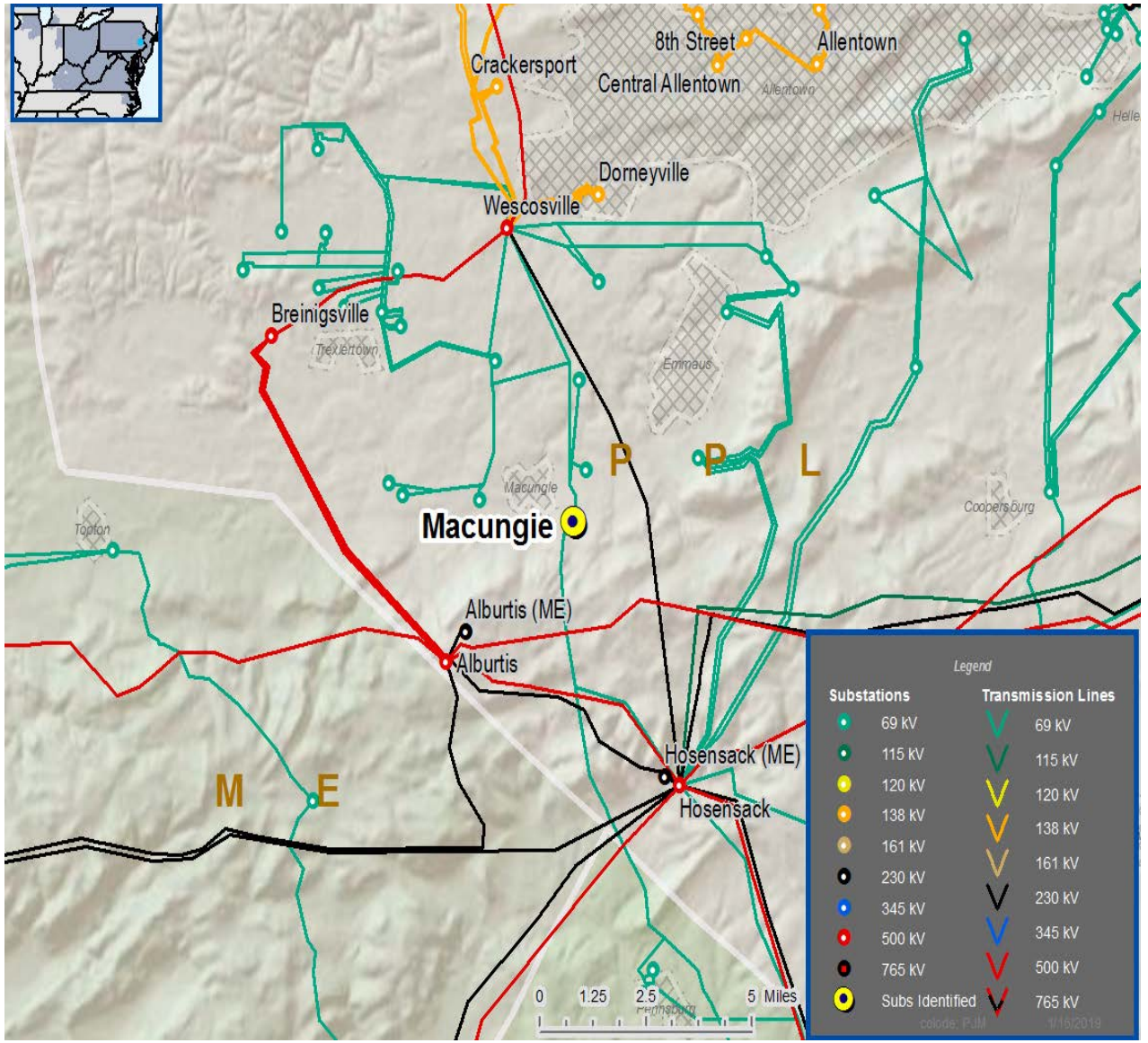
Previously Presented:
Needs Meeting February 22, 2019

Project Driver:
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:
PPL 2019 Annual Assumptions

Problem Statement:
The Macungie 69kV Tap line is a reliability risk due to poor asset condition and health

- The line was originally constructed in 1951 (68 years old)
- This is a 5 mile tap, originally designed primarily with wood H-frame structures and 2/0 FCWC (Copper) conductor
    - 44 total structures
        - 38 were originally wood H-frame
        - 4 were originally wood monopole
        - 2 are steel lattice towers used on a long span
    - 67% of the line is the original wood construction
    - 31% are steel poles that replaced failed wood structures over its life
    - The conductor has a relatively high number of mid-span splices and short sections of 556 ACSR due to a history of conductor failures and repairs, primarily caused by vegetation fall-ins
- The poor condition of this line has resulted in an increase in maintenance in recent years, with 59 recorded maintenance items in the last 10 years. A majority of the recorded maintenance items were attributed to deteriorated/rotten wood and woodpecker holes.
- The line crosses two major state routes in the Lehigh Valley (Route 100 and Route 29). Failures at these critical crossings would result in a substantial public impact, including long duration outages, road closures and potential public safety hazards.
- Unplanned outages on this line affect over 9,000 PPL customers



PPL Transmission Zone M-3 Process
Macungie 69kV Tap

Need Number: PPL-2019-0001

Process Stage: Solutions Meeting October 21, 2019

Proposed Solution:

Rebuild the existing Macungie 69kV Tap line – $7.5M

- Rebuild to PPL's current design standard utilizing monopole steel structures and 556 ACSR conductor

Alternatives Considered:

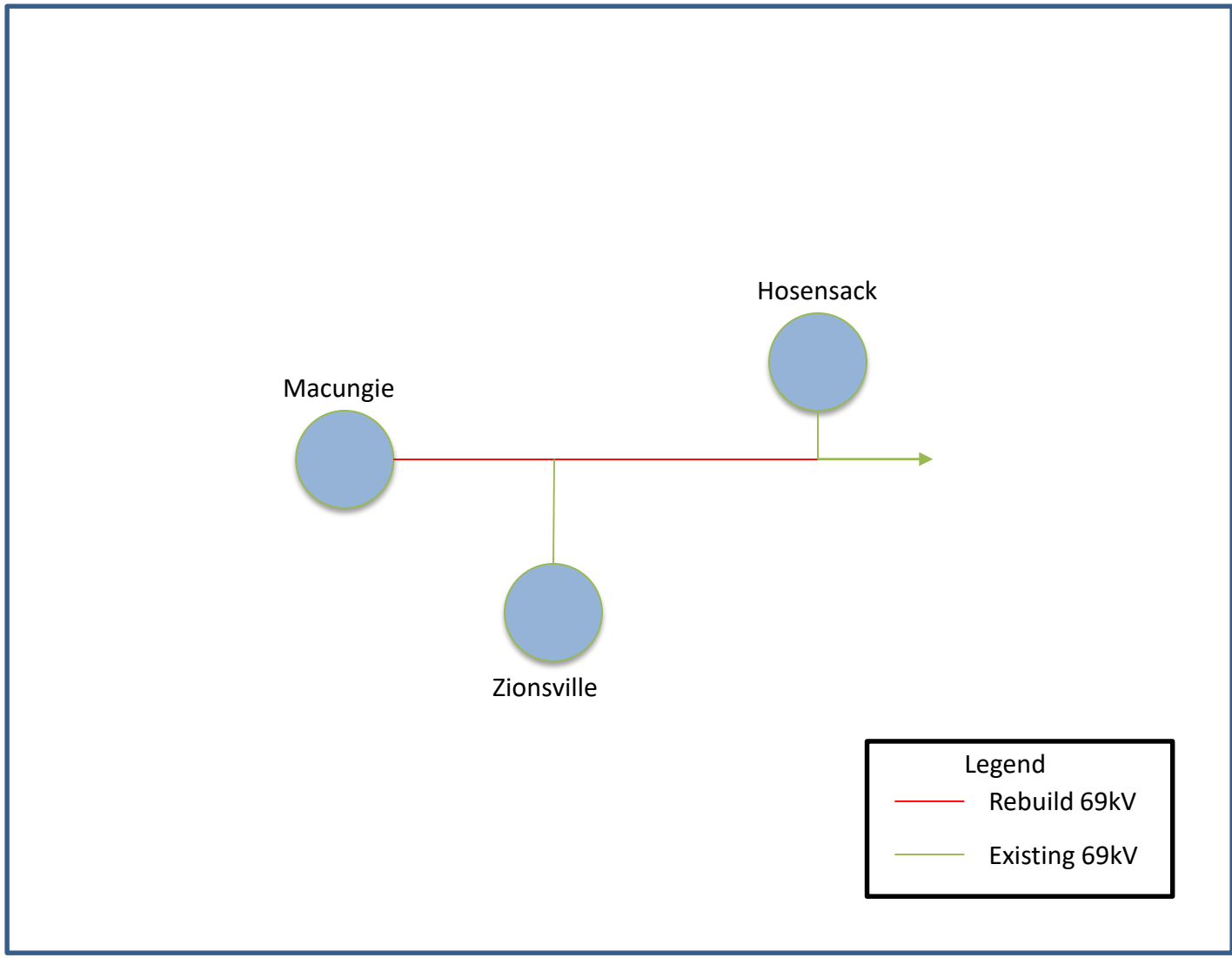
Restoration of existing steel structures, replacement of wood structures, hardware and conductor

- This option does not reduce the vegetation risk since it maintains existing structure geometry
- This option would keep the existing framing while the Rebuild would utilize monopole structure design and would require roughly half the number of poles

Projected In-Service: 11/30/2021

Project Status: Conceptual

Model: N/A



PPL Transmission Zone M-3 Process
Fairfield 69kV Tap

Need Number: PPL-2019-0002

Process Stage: Solutions Meeting October 21, 2019

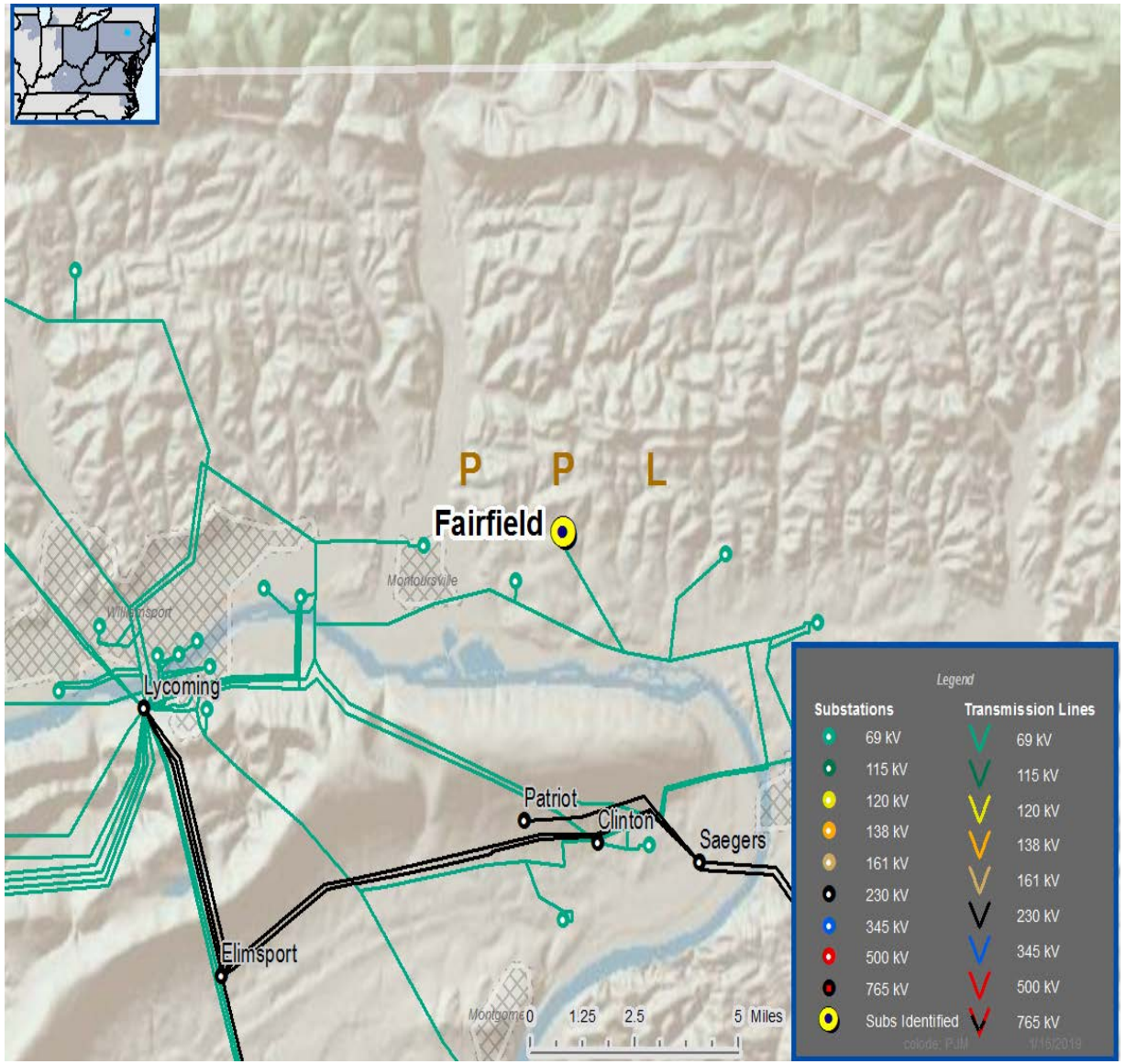
Previously Presented:
Needs Meeting February 22, 2019

Project Driver:
Equipment Material Condition, Performance, and Risk

Specific Assumption Reference:
PPL 2019 Annual Assumptions

Problem Statement:
The Fairfield 69kV Tap line is a reliability risk due to poor asset condition and health

- The line was originally constructed in 1954 (65 years old)
- This is a 0.2 mile tap, originally designed with wood H-frame structures and 4/0 ACSR conductor
    - This short tap line consists of 6 structures, all are the original 65 year old wood construction
    - The 4/0 ACSR has reached its expected useful life and will see an increasing risk of failure, which could result in long duration outages for PPL customers
- Unplanned outages on this line affect over 3,300 PPL customers
    - Over 600 of these customers are considered “stranded load” – in the event of an unplanned outage they could not be restored until the transmission source is back in service



PPL Transmission Zone M-3 Process
Fairfield 69kV Tap

Need Number: PPL-2019-0002

Process Stage: Solutions Meeting October 21, 2019

Proposed Solution:

Rebuild the existing Fairfield 69kV Tap line – $0.36M

- Rebuild to PPL's current design standard utilizing monopole steel structures and 556 ACSR conductor

Alternatives Considered:

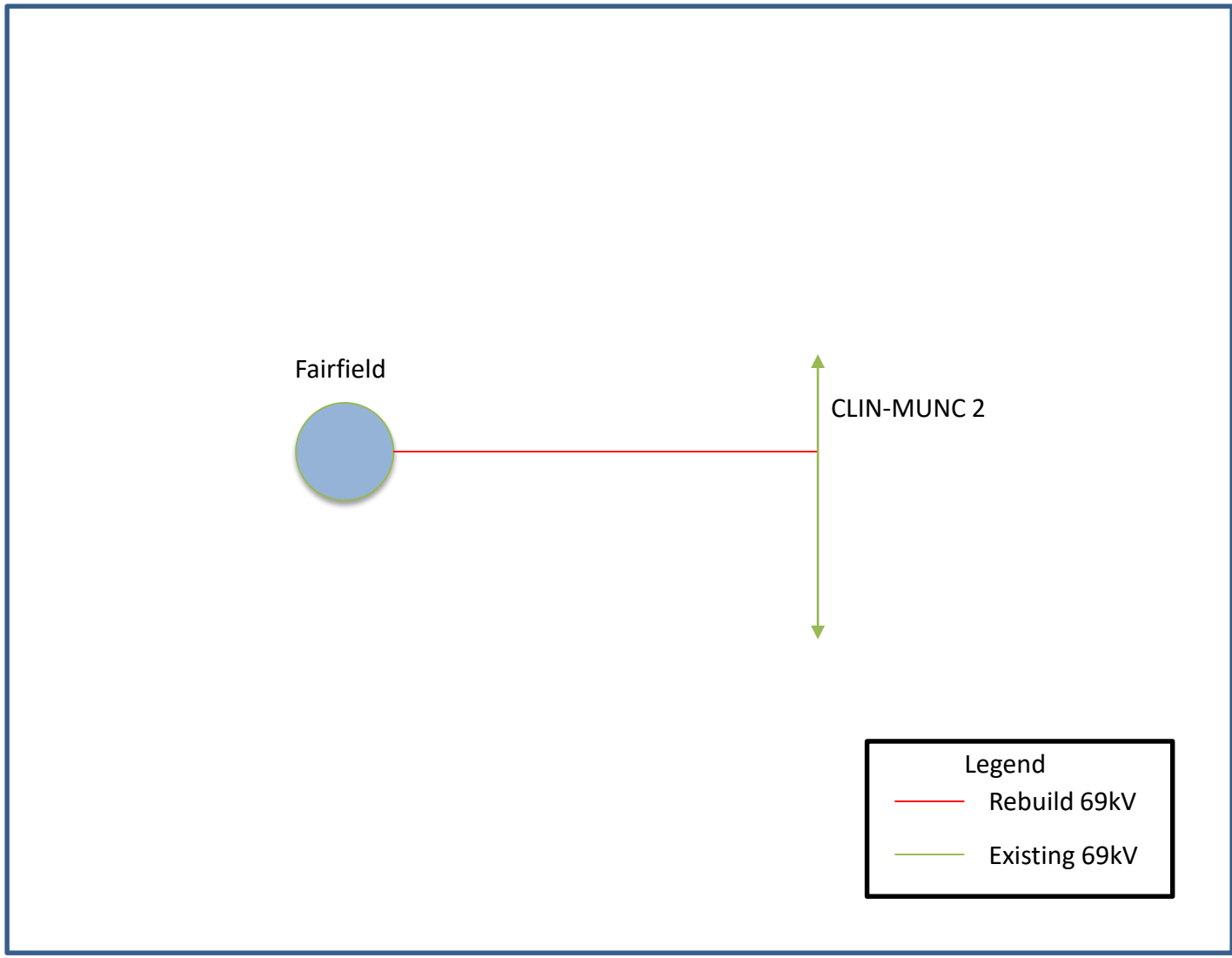
Replacement of wood structures, hardware and conductor

- This option does not reduce the vegetation risk since it maintains existing structure geometry
- This option would keep the existing framing while the Rebuild would utilize monopole structure design and would require roughly half the number of poles

Projected In-Service: 5/31/2021

Project Status: Conceptual

Model: N/A



Questions?

Appendix

High level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

10/11/2019 – V1 – Original version posted to pjm.com