

Subregional RTEP Committee – Mid-Atlantic

Penelec Supplemental Projects

6/28/2019



Needs

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

Penelec Transmission Zone M-3 Process

Need Number: PN-2019-022 to 025 and PN-2019-027 to 031

Process State: Need Meeting 6/28/2019

Project Driver:

Equipment Material Condition, Performance and Risk

Operational Flexibility and Efficiency

Specific Assumption Reference:

System Performance Projects Global Factors

- System reliability and performance
- Substation/line equipment limits

Upgrade Relay Schemes

- Relay schemes that have a history of misoperation
- Obsolete and difficult to repair communication equipment (DTT, Blocking, etc.)
- Communication technology upgrades
- Bus protection schemes

Continued on next slide...

Penelec Transmission Zone M-3 Process

Problem Statement:

- FirstEnergy has identified protection schemes using a certain vintage of relays and communication equipment that have a history of misoperation.
- Proper operation of the protection scheme requires all the separate components perform adequately during a fault.
- In many cases the protection equipment cannot be repaired due to a lack of replacement part and available expertise in the outdated technology.
- Transmission line ratings are limited by terminal equipment.

PN-2019-	Transmission Line / Substation Locations	Existing Line Rating (SN / SE)	Existing Conductor Rating (SN / SE)	Limiting Terminal Equipment
022	Lucerne – Edgewood 115 kV Line Edgewood – Shelocta 115 kV Line	147/190 125/143	202/245 202/245	Line Relaying, Line Trap, Substation Conductor Line Relaying, Line Trap, Substation Conductor
023	East Pike – Lucerne 115 kV Line	163/185	202/245	Line Relaying, Line Trap, Substation Conductor
024	Jackson Road – Seward 115 kV Line	175/191	232/282	Line Relaying, Substation Conductor
025 / APS-2019-009	Armstrong – New Bethlehem 138 kV Line New Bethlehem – Brookville 138 kV Line	293/332 295/342	308/376 308/376	Line Trap, Substation Conductor Line Trap, Substation Conductor, Circuit Breaker
027	Hooversville – Scalp Level 115 kV Line Scalp Level – Rachel Hill 115 kV Line	164/190 164/190	202/245 202/245	Line Relaying, Line Trap, Substation Conductor Line Relaying, Line Trap, Substation Conductor
028	Penn Tech – Ridgway 115 kV Line	135/155	232/282	Line Relaying, Substation Conductor
029	Gore Junction – Rolling Meadows 115 kV Line	137/172	202/245	Disconnect Switch, Line Relaying, Substation Conductor
030	Hill Valley – Shade Gap 115 kV Line	55/55	202/245	Line Relaying, Substation Conductor
031	Garman – Spangler 115 kV Line	126/149	232/282	Line Relaying, Substation Conductor

Penelec Transmission Zone M-3 Process

Need Number: PN-2019-022

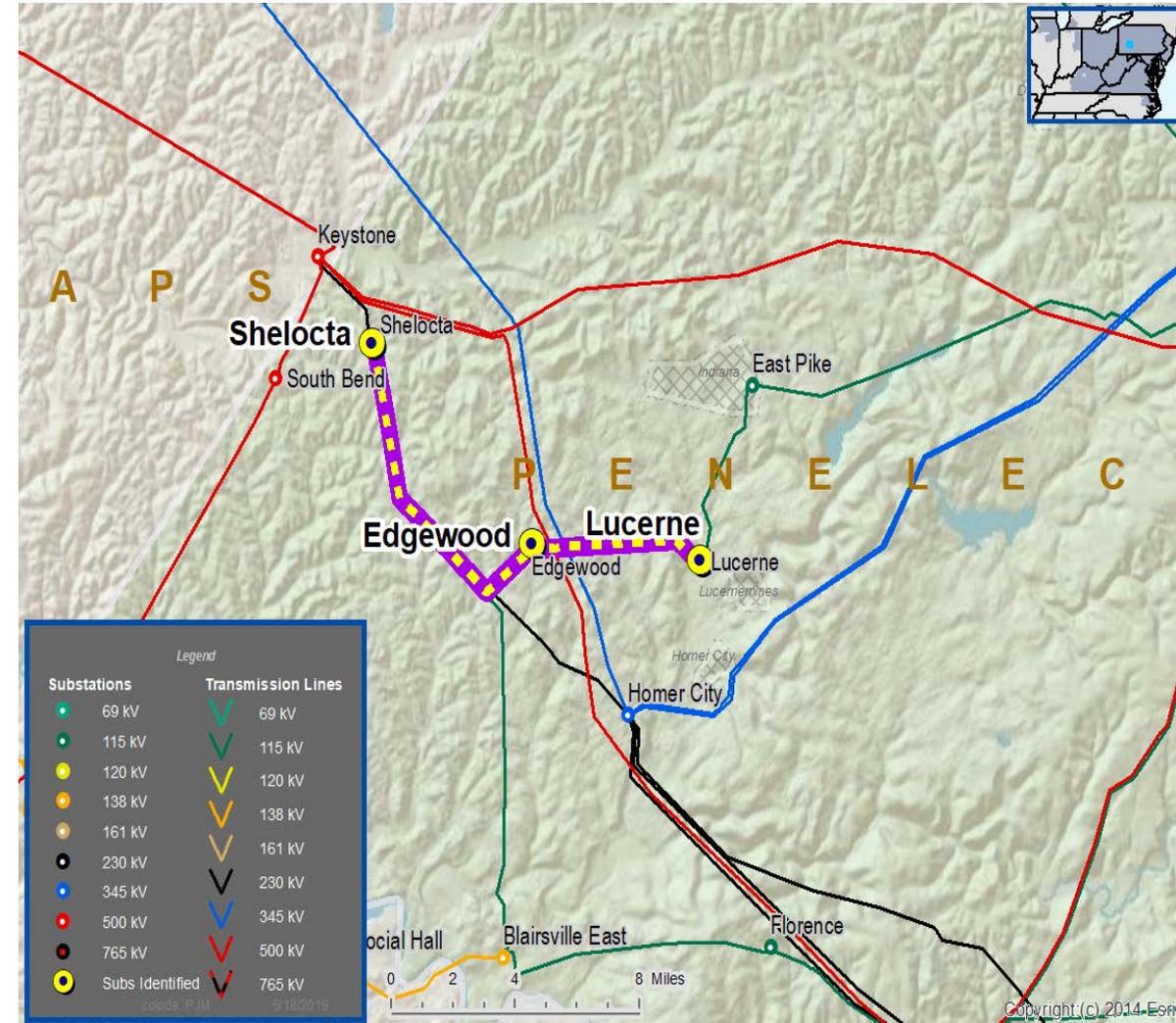
Process State: Need Meeting 6/28/2019

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Transmission Line:

- **Lucerne – Edgewood 115 kV Line**
- **Edgewood – Shelocta 115 kV Line**



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-023

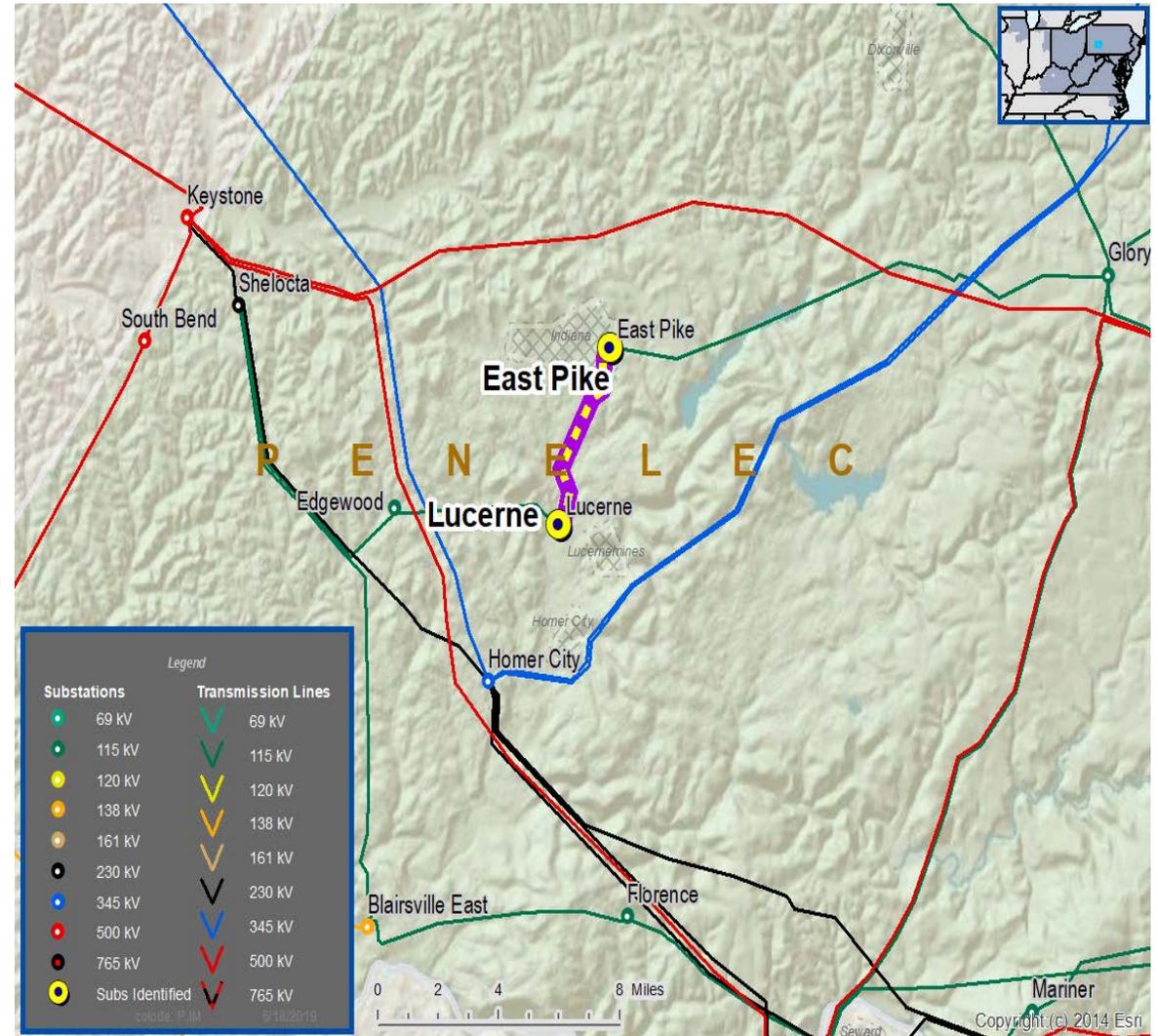
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Transmission Line:

- **East Pike – Lucerne 115 kV Line**



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-024

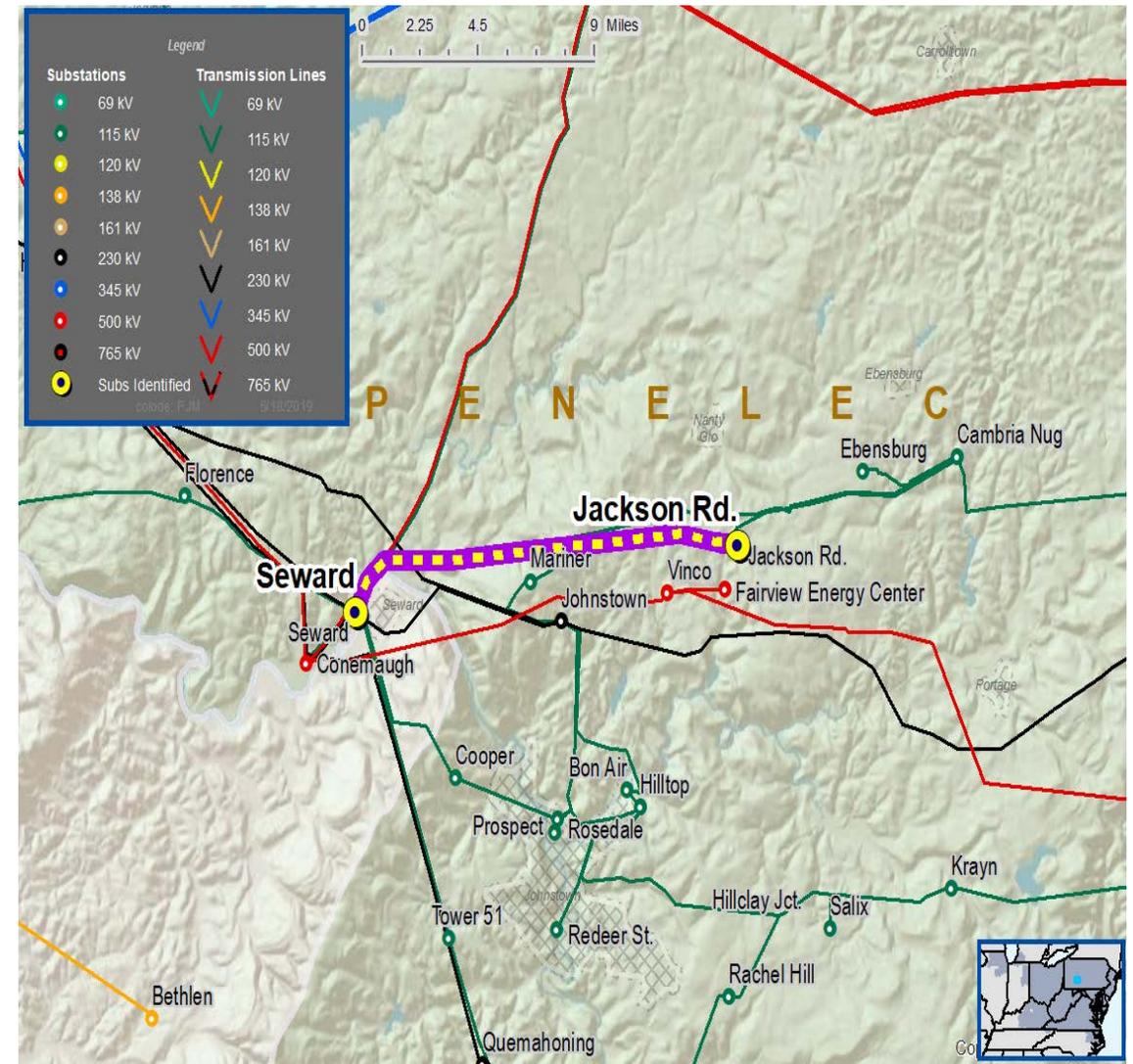
Process State: Need Meeting 6/28/2019

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Transmission Line:

- **Jackson Road – Seward 115 kV Line**



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-025 / APS-2019-009

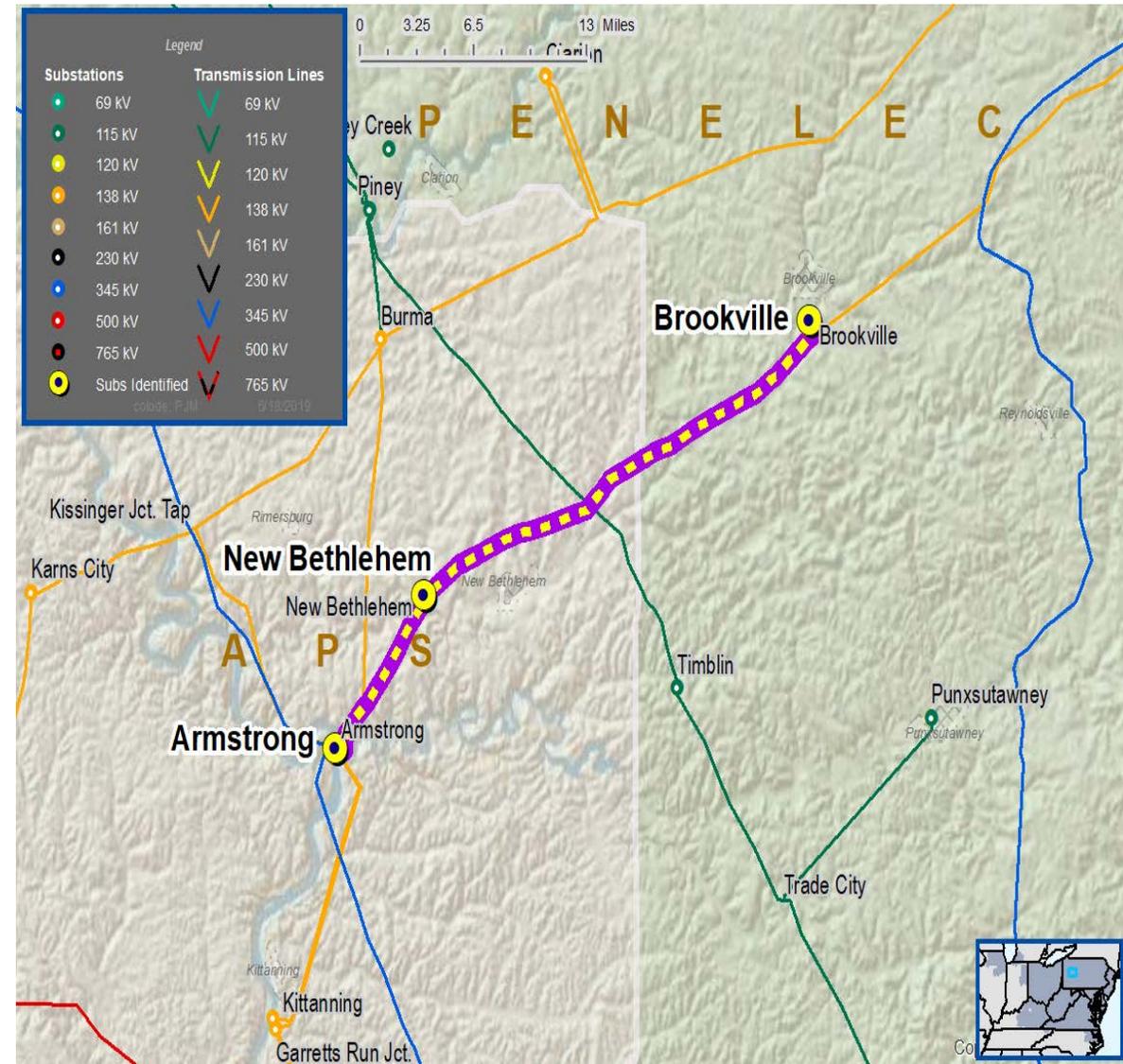
Process State: Need Meeting 6/28/2019

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Transmission Line:

- **Armstrong – New Bethlehem 138 kV Line**
New Bethlehem – Brookville 138 kV Line



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-027

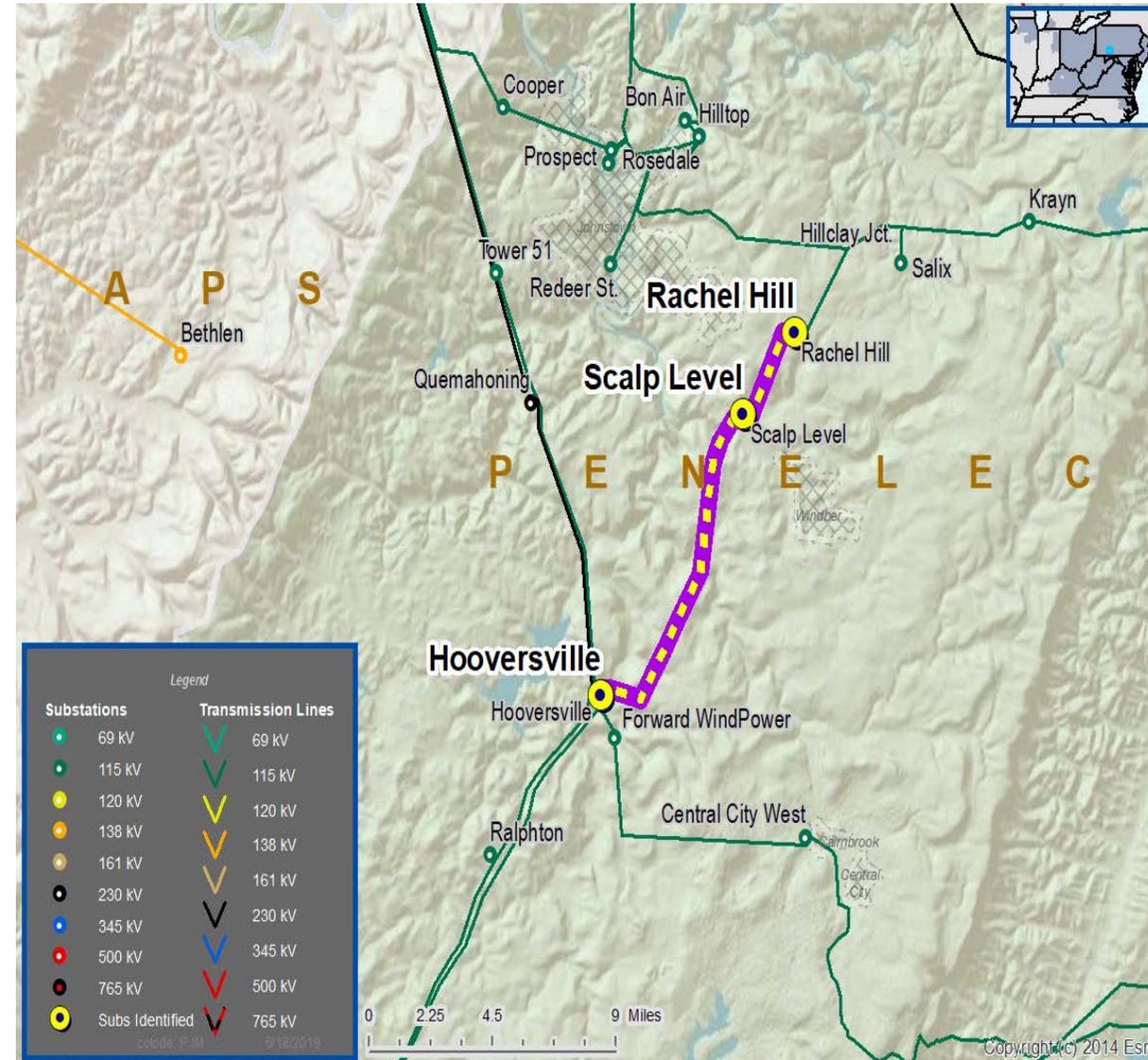
Process State: Need Meeting 6/28/2019

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Transmission Line:

- **Hooversville – Scalp Level 115 kV Line**
- **Scalp Level – Rachel Hill 115 kV Line**



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-028

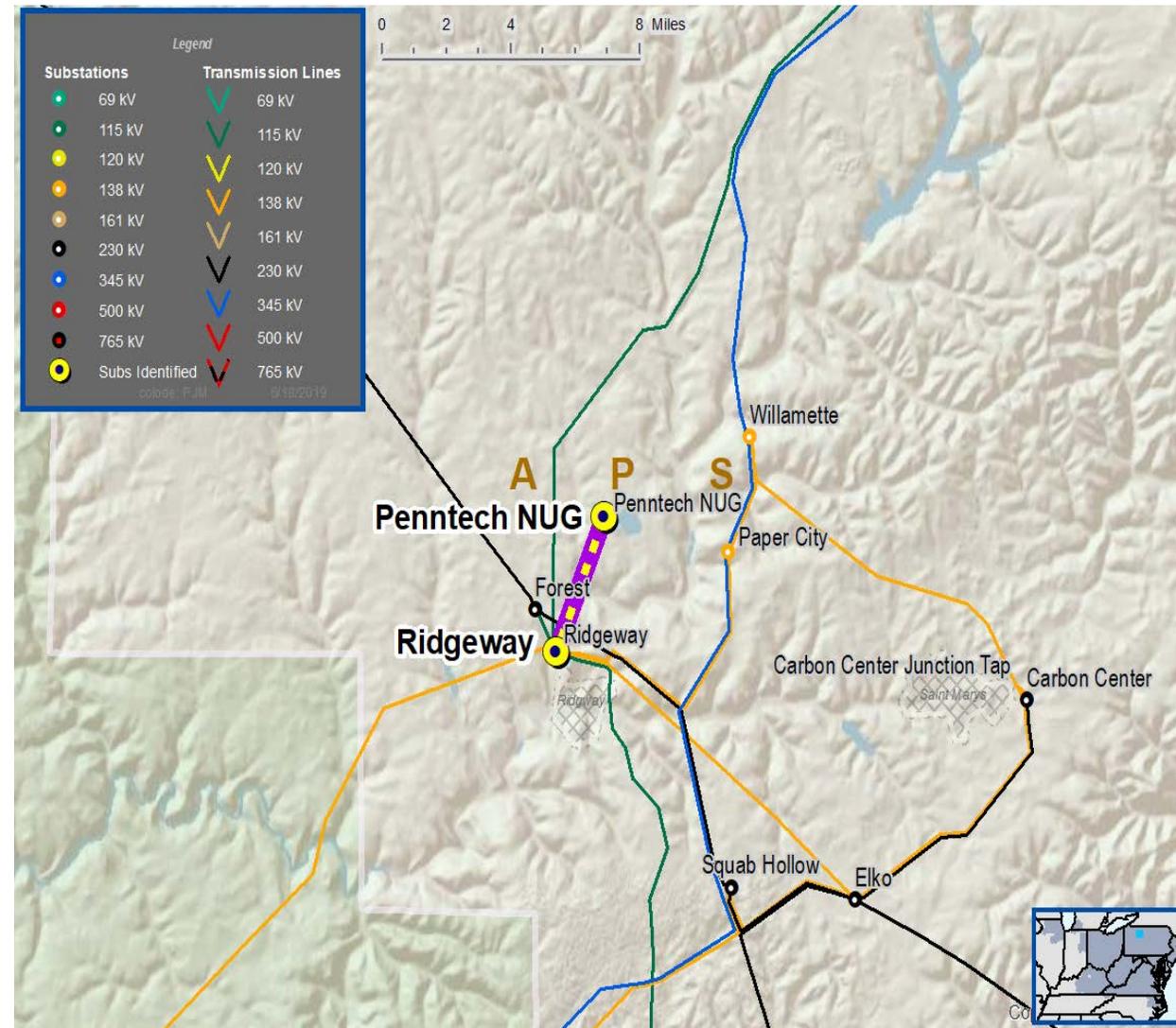
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Transmission Line:

- Penn Tech – Ridgeway 115 kV Line



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-029

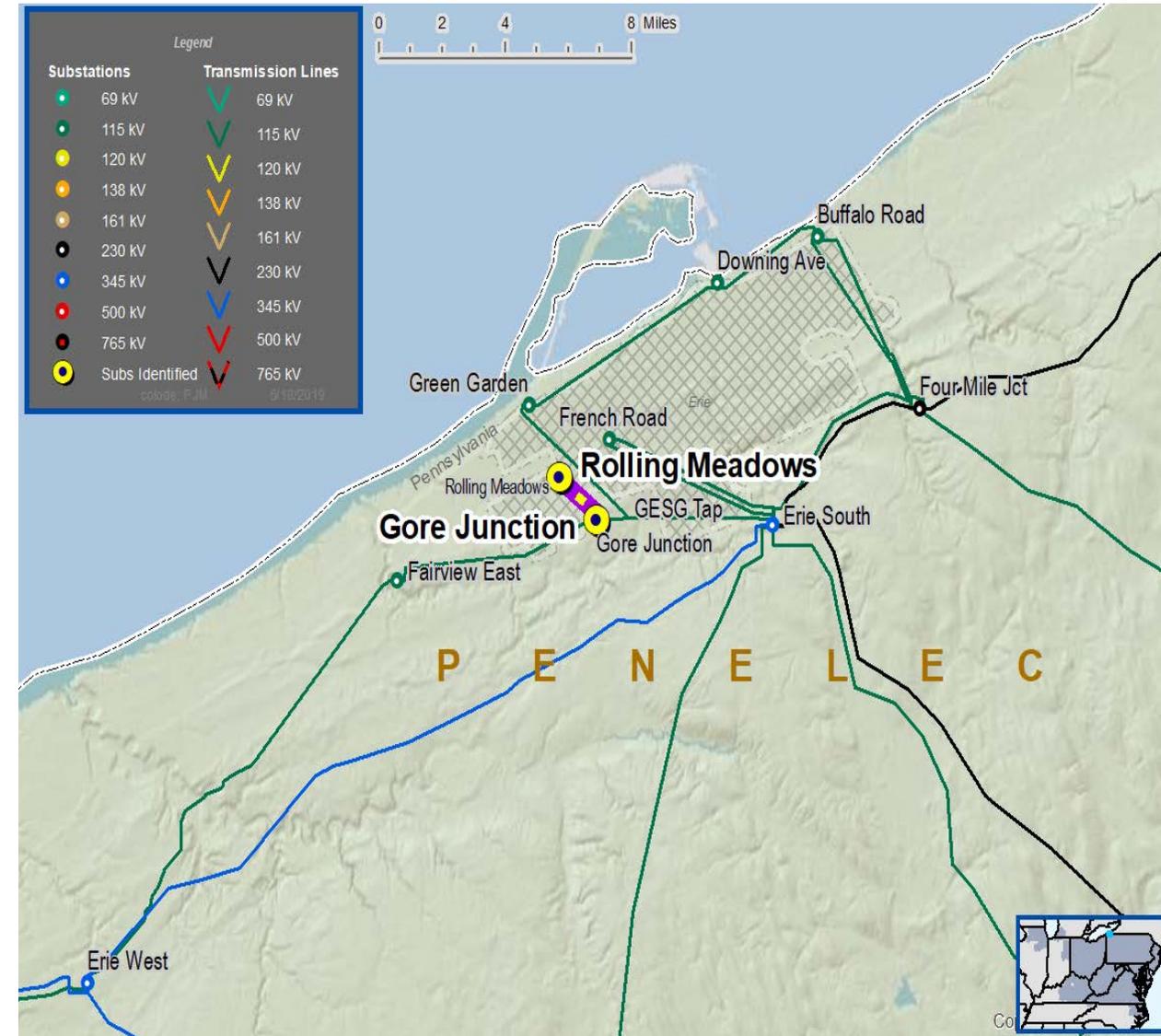
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Transmission Line:

- **Gore Junction – Rolling Meadows 115 kV Line**



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-030

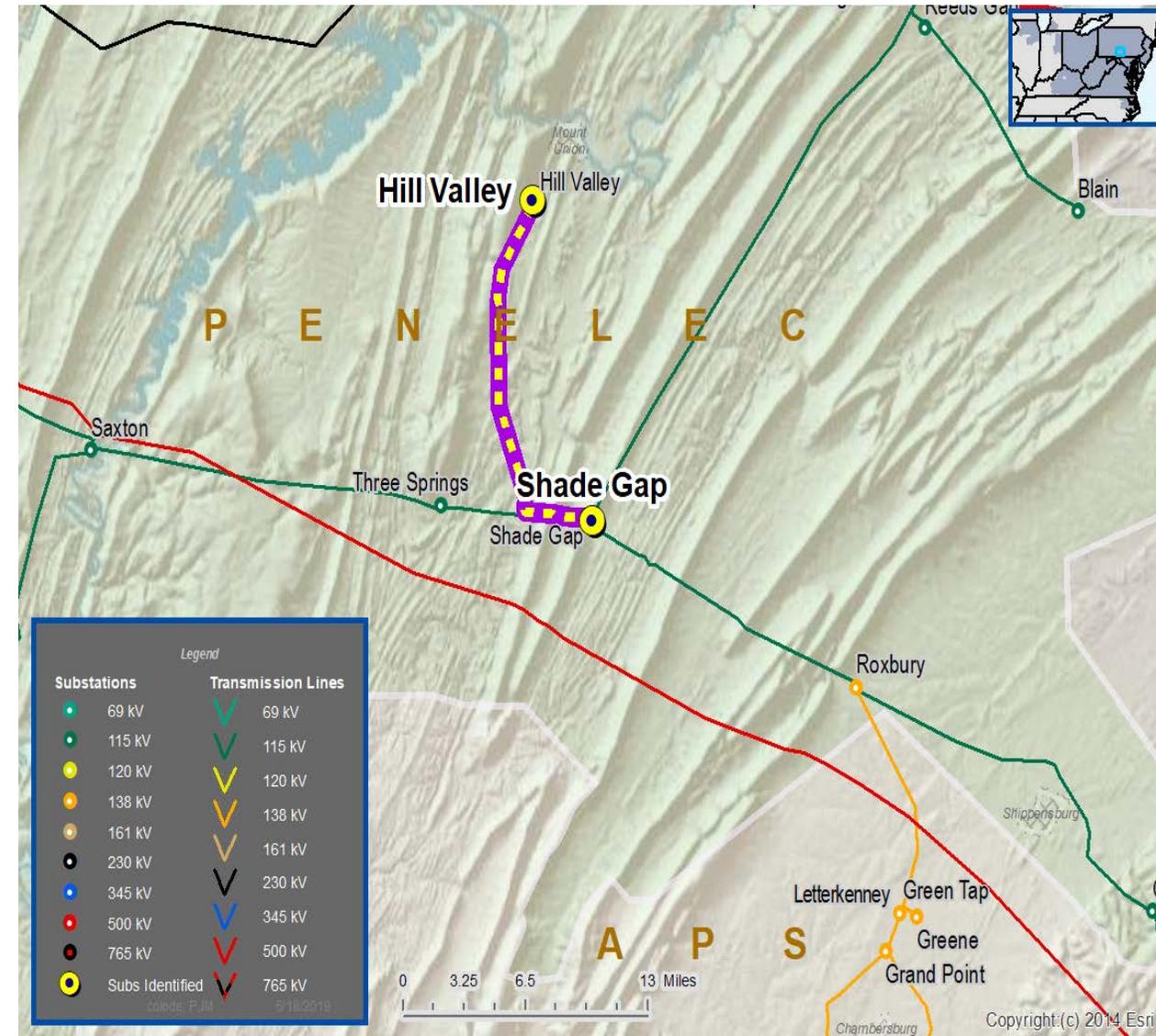
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Transmission Line:

- Hill Valley – Shade Gap 115 kV Line



Penelec Transmission Zone M-3 Process

Need Number: PN-2019-031

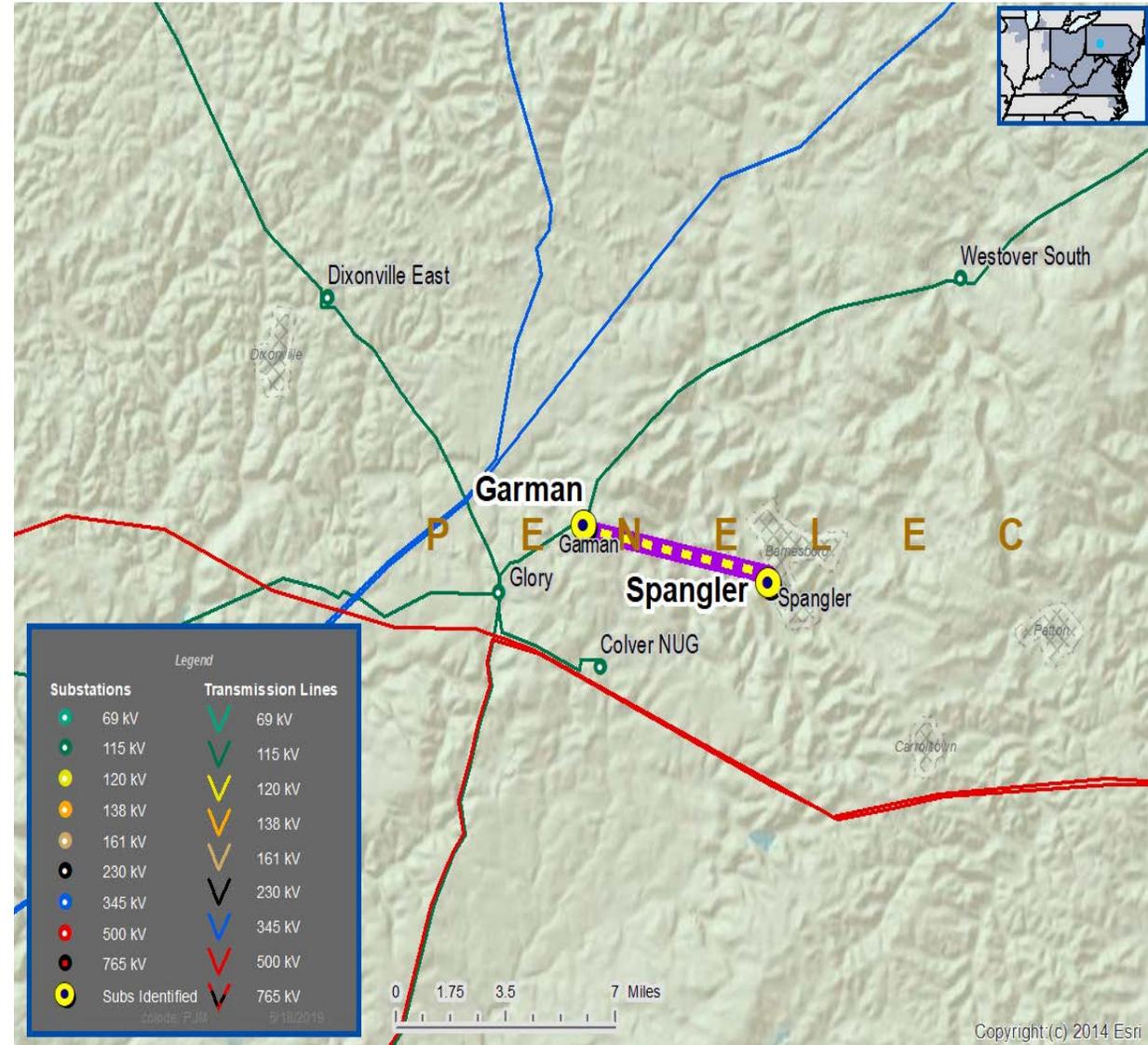
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Transmission Line:

- **Garman – Spangler 115 kV Line**



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

6/18/2019 – V1 – Original version posted to pjm.com

6/25/2019 – V2 - Updated footers for all slides