

PJM TEAC Committee
Dayton Supplemental Projects

June 13, 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

Dayton Transmission Zone M-3 Process Killen Substation

Need Number: Dayton-2019-008

Process Stage: Solutions Meeting 6/13/2019

Previously Presented:

Needs Meeting 4/11/2019

Supplemental Project Driver:

- Operational performance

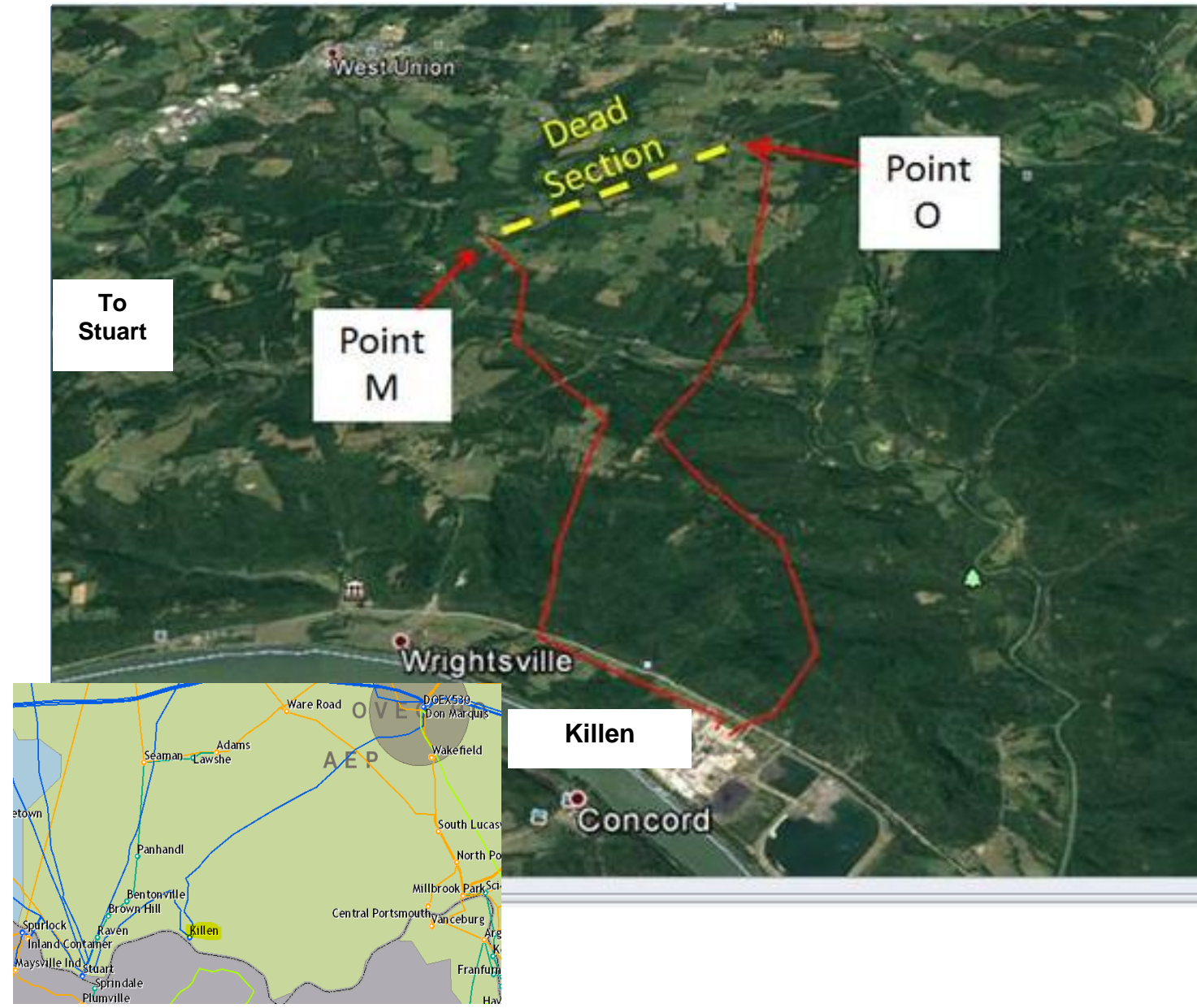
Specific Assumption Reference:

- DPL Local Plan Assumptions (Slide 5)

Problem Statement:

- Killen generators retired 6/1/18 and the capacity injection rights expired 6/1/19.
- After CIRs expire, Killen Substation will serve no purpose since there will be no generation or load serving facilities located at the substation. There is a dead-section of 345kV line that could be utilized to bypass the Killen Substation.
- Point M and Point O serve as demarcation points between AEP and Dayton on the line and points where the Killen 345kV loop could be opened.
- The 345kV line that loops in and out of the substation, along with the substation equipment will add exposure to the system that could decrease the reliability of the 345kV path between Stuart and Marquis Substations.

Model: 2018 MMWG Series – 2020 Summer, 2023 Summer RTEP



Dayton Transmission Zone M-3 Process

Killen Substation

Need Number: Dayton-2019-008

Process Stage: Solutions Meeting 6/13/19

Proposed Solution:

1. AEP will re-energize a dead section of the Stuart-Marquis 345kV line to bypass Killen Substation. Dayton's scope of work will include opening the Killen 345kV loop at Points O and M shown on previous slide. Dayton will need to install guy stub poles for tension at the open points.

Cost = \$200,000

2. Dayton will de-energize Killen substation, update relay settings on the Stuart end of the line, install new tie-line meter at Stuart, and work with AEP to complete end-to-end relay testing on the Stuart-Marquis 345kV path.

Cost = \$100,000

Ancillary Benefits:

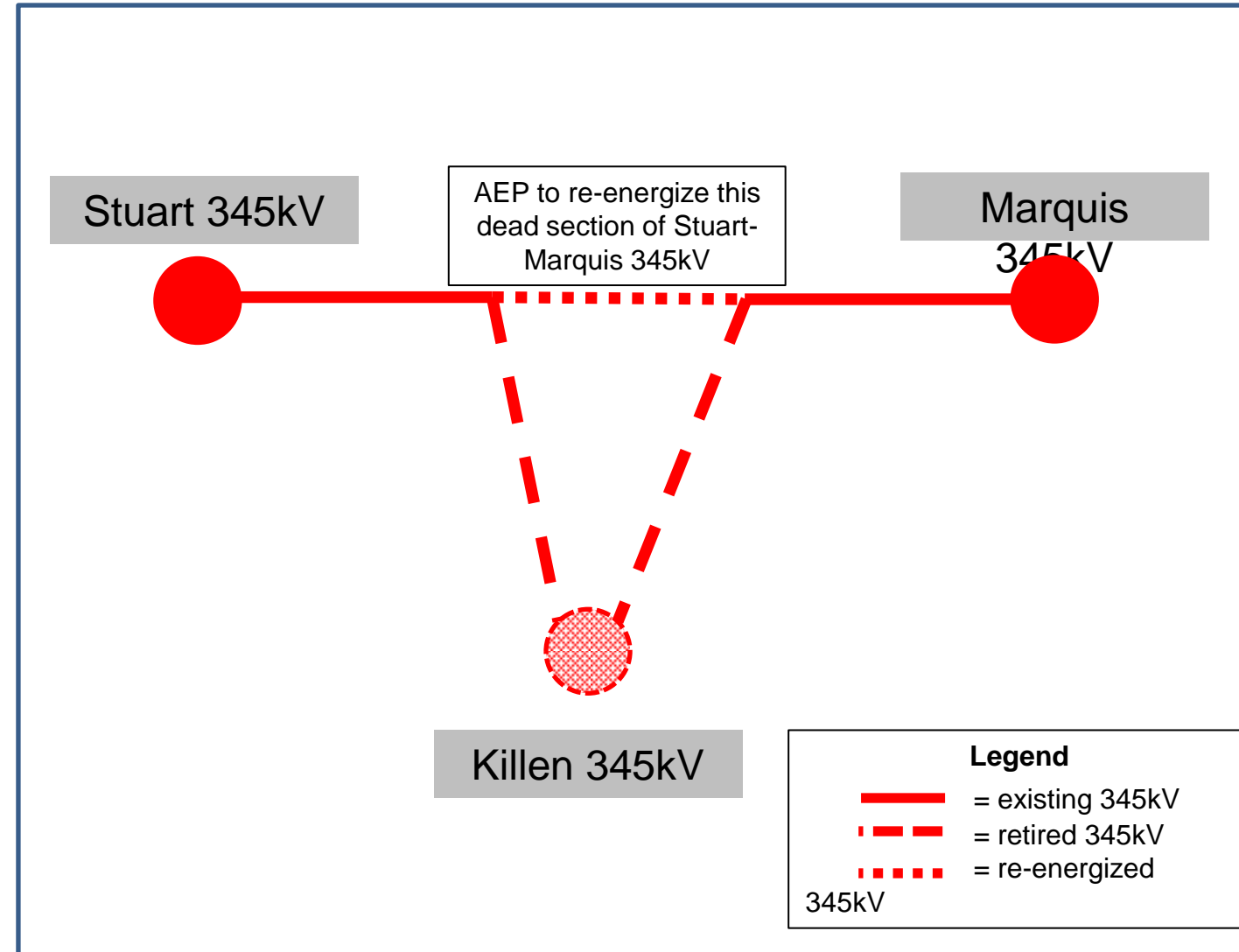
1. Because the Killen generating units retired on 6/1/18 and there is no load served from the sub, the Killen Substation is now just a pass through. Therefore, retiring it and the 345kV transmission loop will reduce system exposure and increase operational efficiency to improve overall system reliability. Killen is located ~2 hours from Dayton so this will eliminate the burden of required inspections and testing there, as well as reducing O&M.

Alternatives Considered:

1. Direct guy conductor to ground. Not selected because the axial load is greater than the tower rating.
2. Remove conductor to next dead end tower. Not selected because next dead end tower is not close.
3. Remove span and dead-end on tower. Not selected because the tower was not designed for terminal load.

Projected In-Service: 11/25/19

Project Status: Conceptual



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

5/30/2019 – V1 – Original version posted to pjm.com