SRRTEP Committee: Western
EKPC Supplemental Projects

January 20, 2023

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

EKPC Transmission Zone M-3 Process
Hardin County New Customer Load

Need Number: EKPC-2022-007

Process Stage: Solutions Meeting – January 20, 2023

Previously Presented:

Need Meeting – December 16, 2022

Supplemental Project Driver:

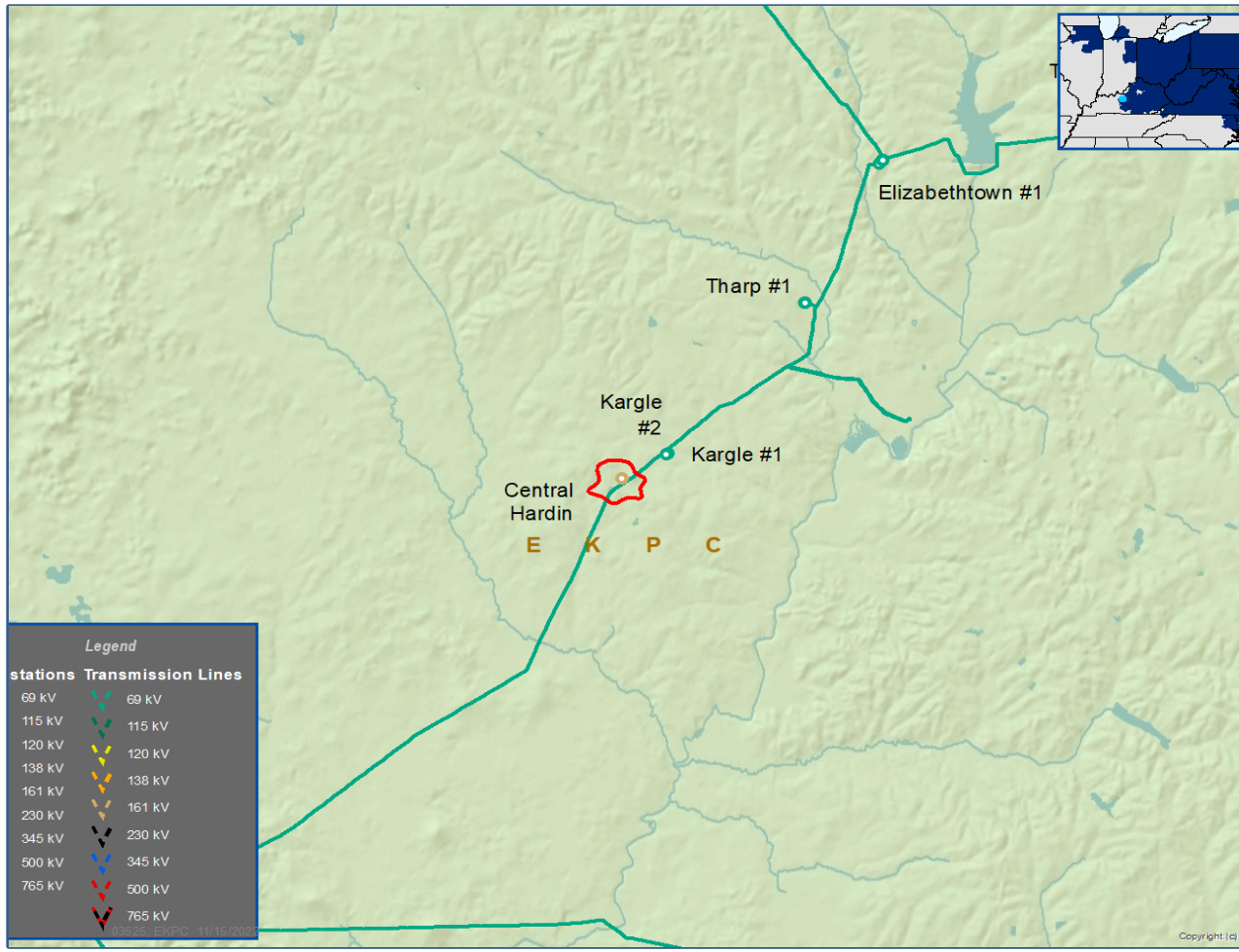
Customer Service

Specific Assumption Reference:

EKPC Assumptions Presentation Slide 15

Problem Statement:

A new customer has requested a new delivery point for a peak demand of 15.0 MW by 12/31/2023. The new delivery point is located in Hardin Co, KY adjacent to EKPC's Central Hardin 138/69 KV substation. The existing distribution infrastructure is not capable of serving this request.



Model: N/A

EKPC Transmission Zone M-3 Process
Hardin County New Customer Load

Need Number: EKPC-2022-007

Process Stage: Solutions Meeting – January 20, 2023

Proposed Solution:
Build a new 69-13.2kV 18/24/30 MVA distribution substation at Central Hardin.

Distribution Cost: $3.62M

Transmission Cost: $0.0M

Ancillary Benefits:

- None

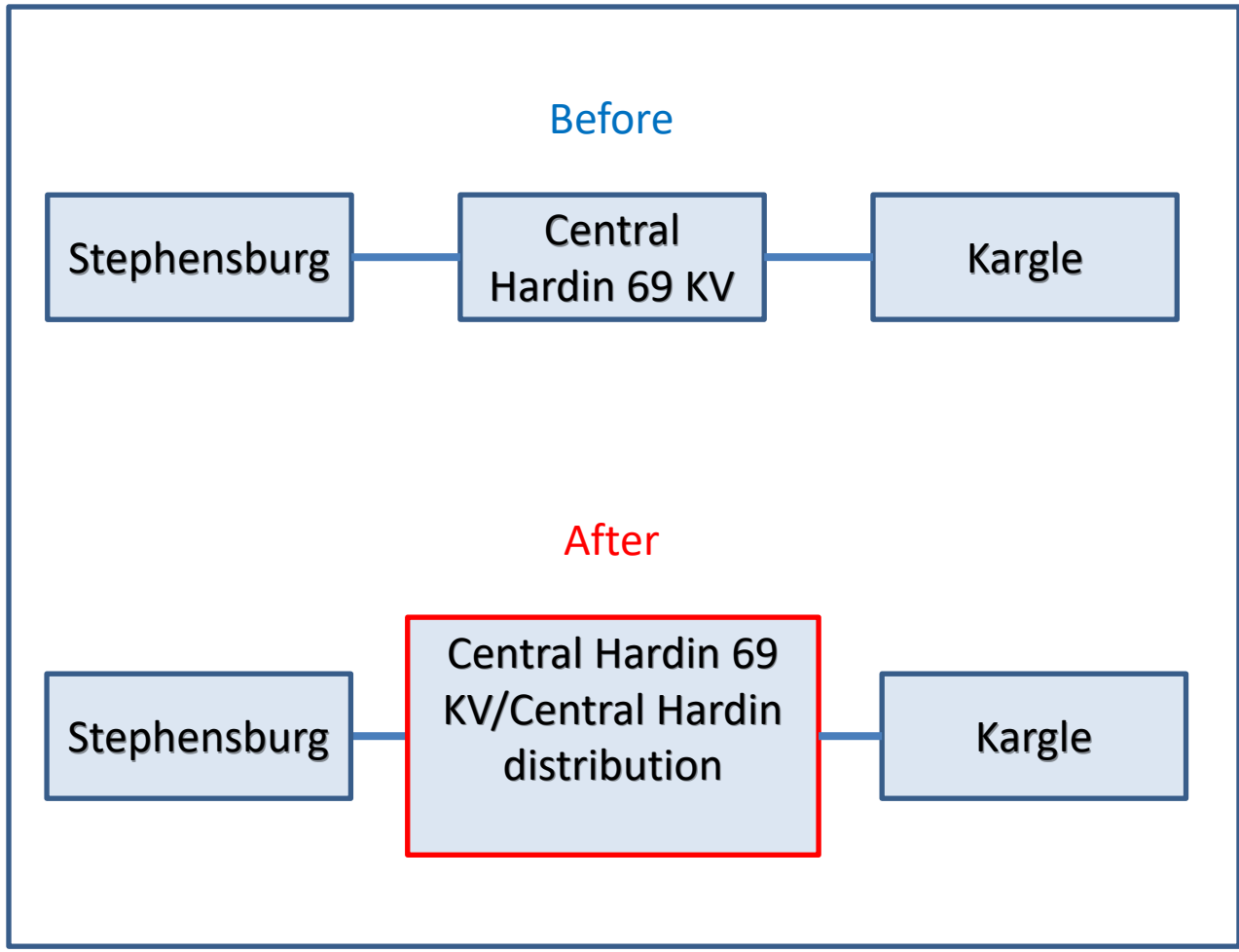
Alternatives Considered:

- None

Projected In-Service: 12/31/2023

Project Status: Engineering

Model: N/A



EKPC Transmission Zone M-3 Process
Richmond-Berea Area

Need Number: EKPC-2022-008

Process Stage: Solutions Meeting – January 20, 2023

Previously Presented:

Need Meeting – December 16, 2022

Supplemental Project Driver:
Customer Service

Specific Assumption Reference:
EKPC Assumptions Presentation Slides 15

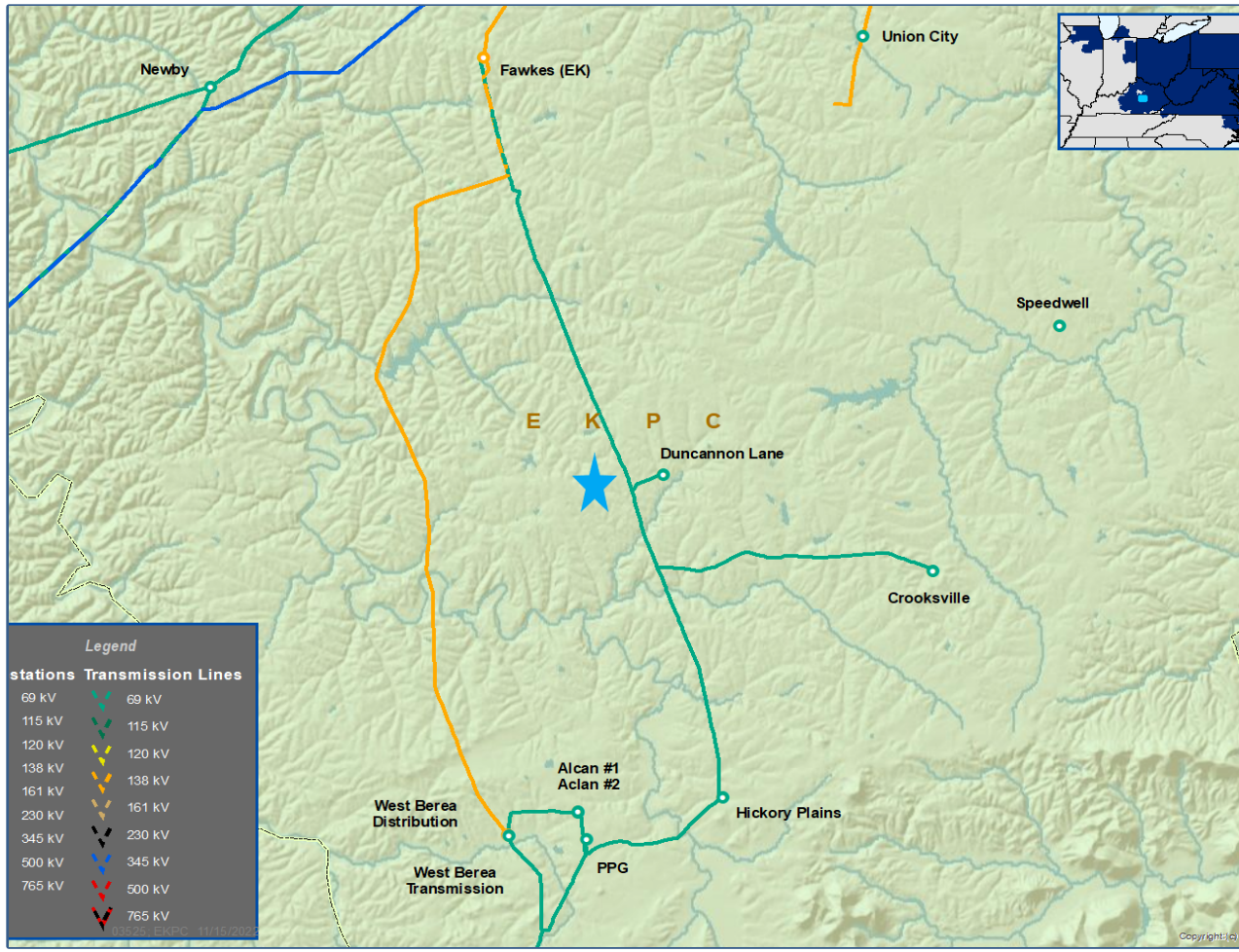
Problem Statement:
EKPC's Economic Development department has had large number of greater than 50 MW+ peak demand potential industrial facilities that have expressed interest in a new industrial site located in Madison County, KY. This industrial site is adjacent to Interstate 75 and the Duncannon Lane 69 KV tap point, indicated by blue mark on the map.

Due to the attractive geographic location of Richmond and Berea, and the availability of land in the area that can be developed for large industrial customers, there is a high likelihood for an increase in the electrical demand in the area.

The existing transmission system in the area can not serve a load of this magnitude. The Fawkes-West Berea 69 KV circuit has reached its maximum available capacity level and is highly depended upon the 138 KV connections in the area.

Alternatives will be developed to provide service to the site to adequately and reliably serve a large amount of load.

Model: N/A



EKPC Transmission Zone M-3 Process
Richmond-Berea Area

Need Number: EKPC-2022-008

Process Stage: Solutions Meeting – January 20, 2023

Proposed Solution:

Modify the scope of (b3762) the Fawkes-Duncannon Lane Tap (7.2 mile) single-circuit 69 KV rebuild to rebuild this line as a double-circuit 138 KV & 69 KV line.

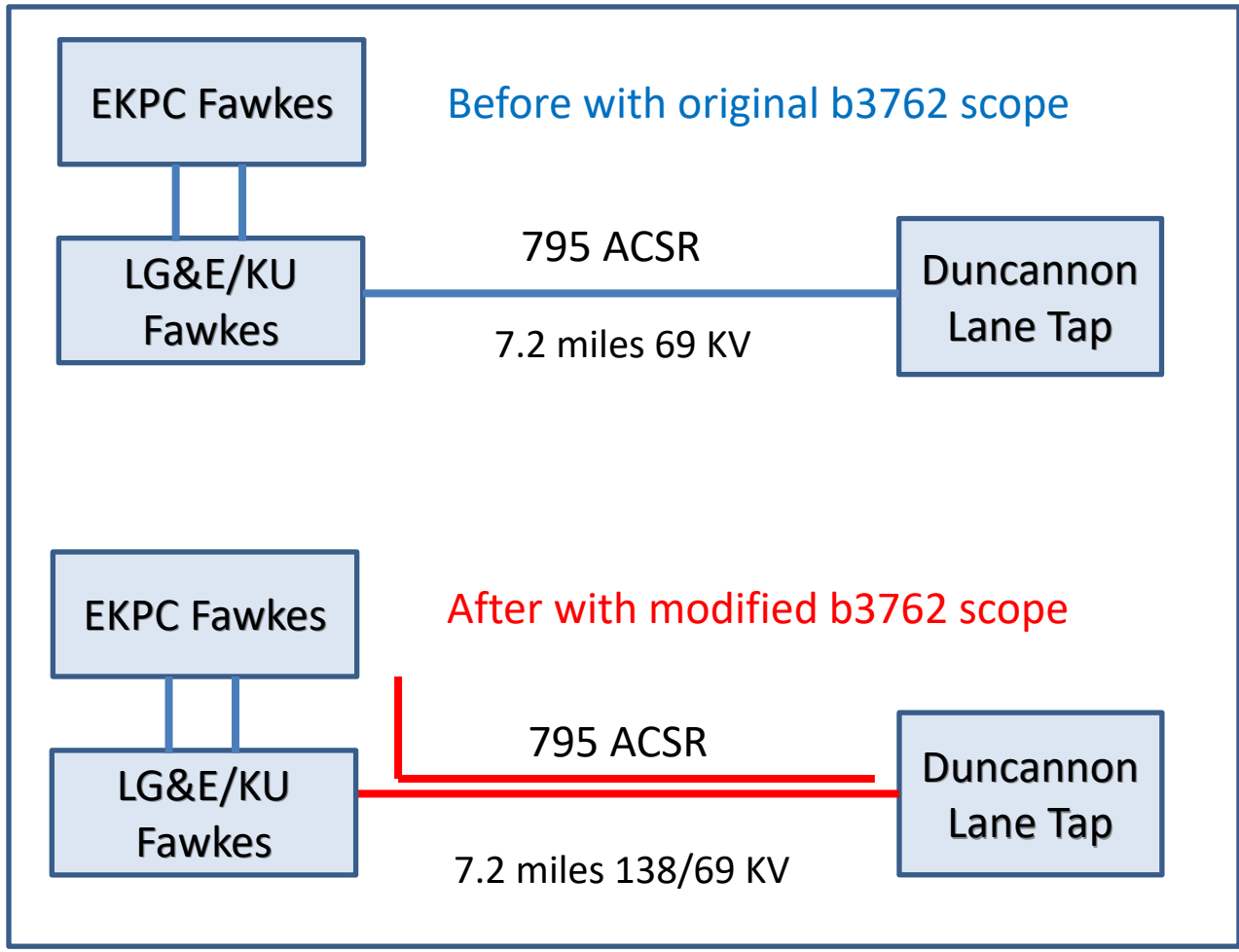
This will allow EKPC to take advantage of the existing rights-of-way to establish a new 138 KV path, as well as the efficiency of constructing both circuits simultaneously. EKPC plans to energize the 69 KV portion of the double-circuit as the replacement for the existing 69 kV line between the KU Fawkes and Duncannon Lane Tap terminating points to align with (b3762). The 138 KV portion of the double-circuit would not be terminated at either end until load growth, other future system changes in the area, or increased operational/reliability concerns drives the need for the 138 KV circuit to be connected to the system.

Distribution Cost: $0.0M
Transmission Cost: $10.5M

This is the estimated incremental cost of modifying the scope of the rebuild from a single-circuit 69 kV line to a double-circuit 138 & 69 kV line. The estimated total cost of this proposed project and (b3762) is $19.0M.

Ancillary Benefits:

- Unlike alternatives considered, EKPC will be able to terminate the new 138 KV circuit at each end relatively expediently when needed to provide additional support to the area, either for loads connecting to the existing 69 KV system or for a large load that would be served at 138 KV transmission voltage, or if EKPC determines that operational and/or reliability needs necessitate that the circuit should be energized.



EKPC Transmission Zone M-3 Process
Richmond-Berea Area

Need Number: EKPC-2022-008

Process Stage: Solutions Meeting – January 20, 2023

Proposed Solution:

Modify the scope of (b3762) the Fawkes-Duncannon Lane Tap (7.2 mile) single-circuit 69 KV rebuild to rebuild this line as a double-circuit 138 KV & 69 KV line.

Alternatives Considered:

Alternative 1 – Build a new 138 KV transmission station ("Madison County") with associated breakers near the Duncannon Lane Tap location for termination of the new 138 KV (14.5 mile) transmission line from a new 138 KV switching station at Union City.

Distribution Cost: $0.0M
Transmission Cost: $32.9M

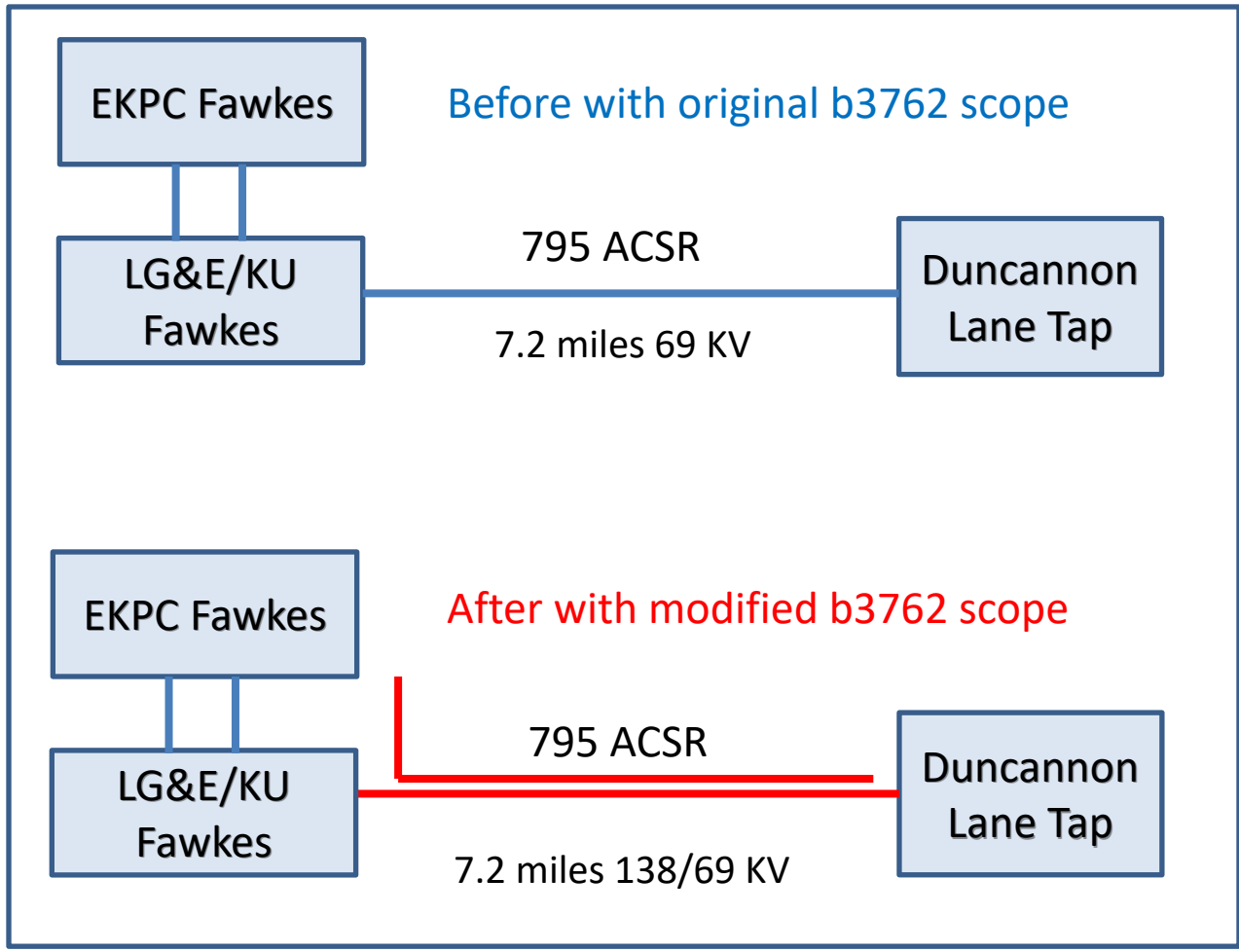
Alternative 2 – Build a new 138 KV transmission station ("Madison County") with associated breakers near the Duncannon Lane Tap location for termination of the new 138 kV (9.7 mile) line from Newby. Rebuild one of the two 11.1 mile double circuit Dale-Newby 69 KV lines as a 138 kV line using 795 MCM ACSR. Add necessary 138 kV terminal equipment at the Dale substation for termination of the new Dale-Newby-Madison County 138 kV line.

Distribution Cost: $0.0M
Transmission Cost: $29.6M

Projected In-Service: 12/31/2024

Project Status: Engineering

Model: N/A



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

1/4/2023 – V1 – Original version posted to pjm.com