

West Cambridge Transformer Addition

General Information

Proposing entity name	AEPSCT
Company proposal ID	AEP_C
PJM Proposal ID	109
Project title	West Cambridge Transformer Addition
Project description	AEP is proposing to install a second 138/69 kV transformer at West Cambridge station. The 69 kV bus will be reconfigured into a 3 breaker ring utilizing the existing 69 kV breaker 'F' along with two new 69 kV circuit breakers. The new transformer will be protected by a high side 138 kV circuit switcher. New transformer branch will be created between bus 243144 and 245483 with an initial SE/SN rating of 124/132 MVA. Existing branch ratings at West Cambridge station will not be changing as a part of this proposal.
Project in-service date	06/2025
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. West Cambridge Transformer Installation

Substation Upgrade Component

Component title	West Cambridge Transformer Installation
Substation name	West Cambridge
Substation zone	205 - AEP

Substation upgrade scope

This scope will require the addition of a second box bay to the existing 138kV structures. This box bay will require the existing breaker and CCVTs for the Muskingum River line to be moved as well as switches for a new transformer. A second transformer with a circuit switcher will be added off of this box bay and connect to a new 69kV vertical ring bus. The existing 69kV structures for East Cambridge will be removed and replaced with a new 69kV ring bus utilizing existing 69 kv breaker 'F' along with two additional 69 kV circuit breakers.

Transformer Information

Name	Capacity (MVA)
------	----------------

West Cambridge Transformer #3	90
-------------------------------	----

High Side	Low Side	Tertiary
-----------	----------	----------

138	69	34.5
-----	----	------

Voltage (kV)

(Qty. 1) 3000A, 100kA, 3PH GOAB Vee CB Switch (Qty. 1) 138kV, 3000A, 40kA Circuit Switcher (Qty. 1) 138/69/12.47kV, 54/72/90MVA Transformer (Qty. 2) 69kV, 3000A, 40kA Circuit Breakers (Qty. 4) 69kV, 3000A, 100kA, 3PH GOAB Vee CB switches

New equipment description

Substation assumptions

Station expansion and civil grading work is minimal and can be done within the limits of the station. No major grounding upgrades/additions will be required

Real-estate description

An expansion of the station in two separate areas will be required in order to have the space to have drivability and maintainability of the station. Both areas of proposed expansion are within the AEP property limits.

Construction responsibility

AEP

Additional comments

Component Cost Details - In Current Year \$

Engineering & design

Detailed cost breakdown

Permitting / routing / siting

Detailed cost breakdown

ROW / land acquisition

Detailed cost breakdown

Materials & equipment

Detailed cost breakdown

Construction & commissioning	Detailed cost breakdown
Construction management	Detailed cost breakdown
Overheads & miscellaneous costs	Detailed cost breakdown
Contingency	Detailed cost breakdown
Total component cost	\$4,308,829.72
Component cost (in-service year)	\$.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
AEP-T366	245253	05NEWCOMTW	245450	05KIMBLTN	1	69	205	FERC 715 Thermal
AEP-T367	245253	05NEWCOMTW	245450	05KIMBLTN	1	69	205	FERC 715 Thermal
AEP-T368	245450	05KIMBLTN	245493	05SALTFRKZ	1	69	205	FERC 715 Thermal
AEP-T373	245450	05KIMBLTN	245493	05SALTFRKZ	1	69	205	FERC 715 Thermal

New Flowgates

None

Financial Information

Capital spend start date	09/2022
Construction start date	09/2024
Project Duration (In Months)	33

Additional comments

None