

# West Cambridge Transformer Addition

## General Information

Proposing entity name	AEPSCT
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	AEP_E
PJM Proposal ID	920
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.
Email	nckoehler@aep.com
Project in-service date	04/2025
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
Project description	Install a second 138/69 kV transformer and associated sectionalizing at West Cambridge station. Reconfigure the 69 kV bus into a 3 breaker ring utilizing the existing 69 kV breaker 'F' along with two additional 3000A 40 kA 69 kV breakers
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

	<b>Name</b>	<b>Capacity (MVA)</b>		
Transformer	West Cambridge Transformer #2	90		
		<b>High Side</b>	<b>Low Side</b>	<b>Tertiary</b>
Voltage (kV)		138	69	12
New equipment description	(Qty. 1) 3000A, 100kA, 3PH GOAB Vee CB Switch (Qty. 1) 138kV, 3000A, 40kA Circuit Switcher plus foundation (Qty. 1) 138/69/12.47kV, 54/72/90MVA Transformer (Qty. 2) 69kV, 3000A, 40kA Circuit Breakers plus foundations (Qty. 4) 69kV, 3000A, 100kA, 3PH GOAB Vee CB switches (Qty. 6) Install strands of 138kV, 1600A strain bus (~ 40') with (3) 138kV, 1600A connection jumpers. (Qty. 1) Install 3Ø, 69kV, 2000MCM strain bus between the 2 H-Frame structures on the 69kV bus (~450')			
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			

Benefits/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	\$4,952,501.00
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	Status
AEP -T39	245478	05LEATHERW	245489	05BROOMRD	1	69	205	FERC 715 Thermal	Included
AEP -T40	245478	05LEATHERW	245489	05BROOMRD	1	69	205	FERC 715 Thermal	Included
AEP -T41	245489	05BROOMRD	245493	05SALTFRKZ	1	69	205	FERC 715 Thermal	Included
AEP -T42	245489	05BROOMRD	245493	05SALTFRKZ	1	69	205	FERC 715 Thermal	Included

### New Flowgates

None

## **Financial Information**

Capital spend start date 01/2023

Construction start date 07/2024

Project Duration (In Months) 27

## **Additional Comments**

None