



**AFFECTED SYSTEM
INTERCONNECTION
FACILITIES STUDY
REPORT**

American Electric Power – Public
Service Company of Oklahoma
Network Upgrade(s)

ASGI-2017-005

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By SPP Generator Interconnections Dept.

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION	COMMENTS
2/21/2018	SPP	Initial draft report issued.	
2/27/2018	SPP	Final report issued.	

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SUMMARY

INTRODUCTION

This Affected System Interconnection Facilities Study (ASIFS) for Interconnection Request ASGI-2017-005 (GIA-052) is for a 144.00 MW generating facility located in Osage County, Oklahoma. The Affected System Interconnection Request was studied after DISIS-2016-001 Impact Study for Affected System Impact Review for Energy Resource Interconnection Service (ERIS) and Network Resource Interconnection Service (NRIS). The Interconnection Customer's requested in-service date is December 31, 2018.

The interconnecting Transmission Owner, American Electric Power – Public Service Company of Oklahoma (AEP-PSCO), performed a detailed ASIFS at the request of SPP. The full report is included in Appendix A. SPP has determined that full Interconnection Service will be available after the Non-Shared Network Upgrade(s) and Other Affected System Network Upgrade(s) are completed.

The primary objective of the ASIFS is to identify necessary Transmission Owner Interconnection Facilities, Network Upgrades, other direct assigned upgrades, cost estimates, and associated upgrade lead times needed to grant the requested Interconnection Service.

PHASE(S) OF INTERCONNECTION SERVICE

It is not expected that Interconnection Service will occur in phases. However, Interconnection Service will not be available until all Interconnection Facilities and Network Upgrade(s) can be placed in service.

CREDITS/COMPENSATION FOR AMOUNTS ADVANCED FOR NETWORK UPGRADE(S)

Interconnection Customer shall be entitled to compensation in accordance with Attachment Z2 of the SPP OATT for the cost of SPP Network Upgrades, including any tax gross-up or any other tax-related payments associated with the Network Upgrades, that are not otherwise refunded to the Interconnection Customer. Compensation shall be in the form of either revenue credits or incremental Long Term Congestion Rights (iLTCR).

INTERCONNECTION CUSTOMER INTERCONNECTION FACILITIES

The Generating Facility is proposed to consist of seventy-two (72) 2.0 MW Vestas V110 VCSS wind generators for a total generating nameplate capacity of 144.00 MW.

AFFECTED SYSTEM TRANSMISSION OWNER INTERCONNECTION FACILITIES AND NON-SHARED NETWORK UPGRADE(S)

To facilitate interconnection, the Affected System Transmission Owner will perform work as shown below necessary for the acceptance of the Interconnection Customer’s Interconnection Facilities.

Table 1 and **Table 2** lists the Interconnection Customer’s estimated cost responsibility for Affected System Transmission Owner Interconnection Facilities (TOIF) and Affected System Non-Shared Network Upgrade(s) and provides an estimated lead time for completion of construction. The estimated lead time begins when the Generator Interconnection Agreement has been fully executed.

Table 1: Affected System Transmission Owner Interconnection Facilities (TOIF)

Affected System Transmission Owner Interconnection Facilities (TOIF)	Total Cost Estimate (\$)	Allocated Percent (%)	Allocated Cost Estimate (\$)	Estimated Lead Time
<u>AEP-PSCO:</u> None	\$0	N/A	\$0	N/A
Total	\$0	N/A	\$0	

Table 2: Affected System Non-Shared Network Upgrade(s)

Affected System Non-Shared Network Upgrades Description	Total Cost Estimate (\$)	Allocated Percent (%)	Allocated Cost Estimate (\$)	Estimated Lead Time
<u>Rebuild Shilder – West Pawhuska – Pawhuska Tap – Domes – Mound Road – Bartlesville 138kV Circuit #1:</u> rebuild transmission circuit from Shilder to Bartlesville to achieve at least 675/908 amps (Summer Peak Normal/Emergency), replace line switches at Dome and West Pawhuska Tap, with 3-way Phase over Phase single structure switches, replace limiting switches at Mound Road, change relays settings at Shilder, and any other associated substation terminal equipment upgrades to accommodate the transmission circuit rebuild.	\$75,811,483	100%	\$75,811,483	36 Months
Total	\$75,811,483	100%	\$75,811,483	

SHARED NETWORK UPGRADE(S)

The Interconnection Customer’s share of costs for Shared Network Upgrades is estimated in **Table 3** below.

Table 3: Interconnection Customer Shared Network Upgrades

Shared Network Upgrades Description	Total Cost Estimate (\$)	Allocated Percent (%)	Allocated Cost Estimate (\$)
<u>Current None</u>	\$0	N/A	\$0
Total	\$0	N/A	\$0

All studies have been conducted assuming that higher-queued Interconnection Request(s) and the associated Network Upgrade(s) will be placed into service. If higher-queued Interconnection Request(s) withdraw from the queue, suspend or terminate service, the Interconnection Customer’s share of costs may be revised. Restudies, conducted at the customer’s expense, will determine the Interconnection Customer’s revised allocation of Shared Network Upgrades.

OTHER AFFECTED SYSTEM NETWORK UPGRADE(S)

Certain Other Affected System Network Upgrades are **currently not the cost responsibility** of the Interconnection Customer but will be required for full Interconnection Service.

Table 4: Interconnection Customer Other Affected System Network Upgrade(s)

Other Network Upgrade(s) Description	Current Cost Assignment	Estimate In-Service Date
Farber – Belle Plains 138kV Circuit #1 Rebuild assigned to DISIS-2016-001-1 Interconnection Customer(s)	\$9,000,000	TBD
Remington – Shilder 138kV Circuit #1 rebuild assigned in AECI GIA-052 facility study	Refer to AECI facility study for latest costs and in-service date	

Depending upon the status of higher- or equally-queued customers, the Interconnection Request’s in-service date is at risk of being delayed or Interconnection Service is at risk of being reduced until the in-service date of these Other Network Upgrades.

CONCLUSION

After all Affected System Interconnection Facilities and Network Upgrades have been placed into service, Interconnection Service for 144.00 MW can be granted. Interconnection Service will be delayed until the Affected System Non-Shared Network Upgrade(s) and Other Affected System Network Upgrade(s) are completed. The Interconnection Customer’s estimated cost responsibility for Affected System Non-Shared Network Upgrades is summarized in the table below.

Table 5: Cost Summary

Description	Allocated Cost Estimate
Affected System Network Upgrades	\$75,811,483
Total	\$75,811,483

A draft CA will be provided to the Interconnection Customer consistent with the final results of this ASIFS report. The Affected System Transmission Owner and Interconnection Customer will have 60 days to negotiate the terms of the CA consistent with the SPP OATT.