



# Screening Study

## SPP-LTSR-2013-014

9/9/2013

SPP Engineering, SPP Transmission Service Studies



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## Executive Summary

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American Electric Power has requested a Screening Study to determine the impacts on SPP facilities due to the Long Term Service Requests for 399 MW. The service type requested for this screening study is Long Term Service Request (LTSR). OASIS# 78485338 and 78485364 was studied as one request from 1/1/2016 to 12/1/2026.

The principal objective of this study is to identify system problems and potential system modifications necessary to facilitate the LTSR request while maintaining system reliability. The LTSR request was studied using two system scenarios. The service was modeled by the transfers from OKGE to AEPW. The two scenarios were studied to capture system limitations caused or impacted by the requested service. An analysis was conducted on the planning horizon from 1/1/2016 to 12/1/2026.

The service was modeled from OKGE to AEPW. Facilities on the SPP system were identified for the requested service due to the SPP Study Methodology criteria. Tables 1 and 2 summarize the results of the screening study analysis for the transfers for the scenarios listed in the table. Table 1 lists SPP thermal transfer limitations identified. Table 2 lists SPP voltage transfer limitations identified. Table 3 lists the network upgrades required to mitigate the limitations impacted by this request.

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## Introduction

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American Electric Power has requested a screening study to determine the impacts on SPP facilities for the Long Term Service Requests for 399 MW.

The purpose of the LTSR Option Screening Study is to provide the Eligible Customer with an approximation of the transmission remediation costs of each potential LTSR and a reasonable cost differential between alternatives for the purpose of an Eligible Customer's ranking of its potential LTSRs. The results of the Screening Study are not binding and the Eligible Customer retains the rights to enter the Aggregate Transmission Service Study. The Screening Study results will not assess the third party impacts and upgrades required. Service will not be granted based on the Screening Study for potential LTSRs on the Transmission System. To obtain a Service Agreement, Eligible Customers must apply for service and follow the application process set forth in Parts II and III of the Tariff.

This study includes steady-state contingency analysis (PSS/E function ACCC). The steady-state analysis considers the impact of the request on transmission line and transformer loadings for outages of single transmission lines, transformers, and generating units, and selected multiple transmission lines and transformers on the SPP and first-tier third party systems.

The LTSR request was studied using two system scenarios. The service was modeled by a transfer from SPS to SPS. The two scenarios were studied to capture the system limitations caused or impacted by the requested service. Scenario 0 includes projected usage of transmission service included in the SPP 2012 Series Cases. Scenario 5 includes transmission service not already included in the SPP 2012 Series Cases.

## Study Methodology

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### **Description**

The facility study analysis was conducted to determine the steady-state impact of the requested service on the SPP system. The steady-state analysis was performed to ensure current SPP Criteria and NERC Reliability Standards requirements are fulfilled. SPP conforms to NERC Reliability Standards, which provide strict requirements related to voltage violations and thermal overloads during normal conditions and during a contingency. NERC Standards require all facilities to be within normal operating ratings for normal system conditions and within emergency ratings after a contingency.

Normal operating ratings and emergency operating ratings monitored are Rate A and B in the SPP Model Development Working Group (MDWG) models, respectively. The upper bound and lower bound of the normal voltage range monitored is 105% and 95%. The upper bound and lower bound of the emergency voltage range monitored is 105% and 90%. Transmission Owner voltage monitoring criteria is used if more restrictive. The SPS Tuco 230 kV bus voltage is monitored at 92.5% due to pre-determined system stability limitations. The WERE Wolf Creek 345 kV bus voltage is monitored at 103.5% and 98.5% due to transmission operating procedure.

The contingency set includes all SPP control area branches and ties 69 kV and above; first tier non-SPP control area branches and ties 115 kV and above; any defined contingencies for these control areas; and generation unit outages for the control areas with SPP reserve share program redispatch. The monitor elements include all SPP control area branches, ties, and buses 69 kV. and above,. Voltage monitoring was performed for SPP control area buses 69 kV and above.

A 3 % transfer distribution factor (TDF) cutoff was applied to all SPP control area facilities. For voltage monitoring, a 0.02 per unit change in voltage must occur due to the transfer or modeling upgrades to be considered a valid limit to the transfer.

### **Model Development**

SPP used four seasonal models to study the OKGE to AEPW 399 MW request for the requested service period. The following SPP Transmission Expansion Plan 2012 Build 1 Cases were used to study the impact of the requested service on the transmission system:

2014/15 Winter Peak (14WP)  
2018 Summer Peak (18SP)  
2018/19 Winter Peak (18WP)  
2023 Summer Peak (23SP)  
2023/24 Winter Peak (23WP)

The Summer Peak models apply to June through September, and the Winter Peak models apply to December through March.

The chosen base case models were modified to reflect the current modeling information. From the six seasonal models, two system scenarios were developed. Scenario 0 includes projected usage of transmission included in the SPP 2012 Series Cases. Scenario 5 includes transmission not already included in the SPP 2012 Series Cases.

### **Transmission Request Modeling**

Network Integration Transmission Service requests are modeled as Generation to Load transfers in addition to Generation to Generation because the requested Network Integration Transmission Service is a request to serve network load with the new designated network resource, and the impacts on the Transmission System are determined accordingly. Generation to Generation transfers are accomplished by developing a post-transfer case for comparison by dispatching the request source and redispatching the request sink.

### **Transfer Analysis**

Using the selected cases both with and without the requested transfer modeled, the PSS/E Activity ACCC was run on the cases and compared to determine the facility overloads caused or impacted by the transfer. Transfer distribution factor cutoffs and voltage threshold (0.02 change) were applied to determine the impacted facilities. The PSS/E options chosen to conduct the analysis can be found in Appendix A.

## Study Results

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### **Study Analysis Results**

Tables 1 and 2 contain the initial steady-state analysis results of the LTSR. The tables are attached to the end of this report, if applicable. The tables identify the scenario and season in which the event occurred, the transfer amount studied, the facility control area location, applicable ratings of the thermal transfer limitations and voltage transfer limitations, and the loading percentage and voltage per unit (pu).

Table 1 lists the SPP thermal transfer limitations caused or impacted by the 399 MW requested transfers for applicable scenarios. Solutions are identified for the limitations in this table.

Table 2 lists the SPP voltage transfer limitations caused or impacted by the 399 MW requested transfers for applicable scenarios. Solutions are identified for the violations in this table.

Table 3 lists the network upgrades required to mitigate the limitations caused or impacted by this request. Engineering and construction costs are provided for assigned upgrades in this table.

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## Conclusion

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The results of the screening study show that limiting constraints exist within the SPP regional transmission system for the requested transfer of 399 MW. The next steps are to WITHDRAW the request on OASIS and, if desired, enter a new OASIS request into the aggregate study queue.

The results contained in this study are for informational purposes only. Service will not be granted based on the Screening Study results. To obtain a Service Agreement, Eligible Customers must apply for service and follow the application processes set forth in Parts II and III of the Tariff and enter the Aggregate Study process. The results of the Aggregate Study may vary from the results of this screening study.

As a final step in this process, it is requested that the customer WITHDRAW the LTSR screening study request on OASIS.



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## Appendix A

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### PSS/E CHOICES IN RUNNING LOAD FLOW PROGRAM AND ACCC

#### BASE CASE SETTINGS:

- Solutions: Fixed slope decoupled Newton-Raphson solution (FDNS)
- Tap adjustment: Stepping
- Area Interchange Control: Tie lines and loads
- Var limits: Apply immediately
- Solution Options:
  - Phase shift adjustment
  - Flat start
  - Lock DC taps
  - Lock switched shunts

#### ACCC CASE SETTINGS:

- Solutions: AC contingency checking (ACCC)
- MW mismatch tolerance: 0.5
- System intact rating: Rate A
- Contingency case rating: Rate B
- Percent of rating: 100
- Output code: Summary
- Min flow change in overload report: 3mw
- Excl'd cases w/ no overloads from report: YES
- Exclude interfaces from report: NO
- Perform voltage limit check: YES
- Elements in available capacity table: 60000
- Cutoff threshold for available capacity table: 99999.0
- Min. contng. Case Vltg chng for report: 0.02
- Sorted output: None
- Newton Solution:
- Tap adjustment: Stepping
- Area interchange control: Tie lines and loads (Disabled for generator outages)
- Var limits: Apply immediately
- Solution options:
  - Phase shift adjustment
  - Flat start
  - Lock DC taps
  - Lock switched shunts

Scenario	Season	From Area	To Area	Monitored Branch Over 100% Rate B	Transfer Case % Loading	TDF (%)	Outaged Branch Causing Overload	Upgrade Name	Solution
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	110.9	14.64%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.3	17.10%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.8	15.73%	SPP-WERE-90	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	AEPW	AEPW	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	103.9	3.64%	COFFEYVILLE FARMLAND - DELAWARE 138KV CKT 1	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	Rebuild 3.8 miles with 1533.3 ACSR/TW
5	18SP	AEPW	AEPW	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	103.8	3.64%	DELAWARE (DELAWARE) 345/138/13.8KV TRANSFORMER CKT 1	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	Rebuild 3.8 miles with 1533.3 ACSR/TW
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.6	15.73%	SPP-WERE-91	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.3	13.56%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	118.2	16.92%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.9	15.19%	WRTOD400	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	110.9	14.64%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.5	11.96%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	118.2	16.92%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	104.1	11.75%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.9	15.19%	WRTOD400	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.5	11.96%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.6	15.73%	SPP-WERE-91	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.8	15.73%	SPP-WERE-90	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	101.2	15.19%	HOYT - STRANGER CREEK 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.3	17.10%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	101.2	15.19%	HOYT - STRANGER CREEK 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	122.1	14.83%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.1	16.99%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.3	13.56%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	104.1	11.75%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	117.3	17.04%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.1	16.99%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	117.3	17.04%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.5	15.18%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	115.9	11.05%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	122.1	14.83%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV
5	23SP	AEPW	AEPW	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1	129.1	4.89%	CHAMBER SPRINGS - TONTITOWN 345KV CKT 1	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1	Rebuild and reconductor 11.1-mile 161 kV line from Chamber Springs to Farmington REC with 2-959.6 ACSR/TW. Upgrade wavetraps, CT ratios, and relay settings at Chamber Springs.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.5	15.18%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	23SP	AEPW	AEPW	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1	128.9	4.89%	TONTITOWN () 345/161/13.8KV TRANSFORMER CKT 1	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1	Rebuild and reconductor 11.1-mile 161 kV line from Chamber Springs to Farmington REC with 2-959.6 ACSR/TW. Upgrade wavetraps, CT ratios, and relay settings at Chamber Springs.
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	115.9	11.05%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Clearwater 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.
5	23SP	WERE	WERE	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	132.2	3.99%	BENTON - WICHITA 345KV CKT 1	CHISHOLM - MAIZEE 138KV CKT 1 #1	Upgrade disconnect switches, wavetrap, breaker, jumpers
5	18SP	WERE	WERE	CHISHOLM - MAIZEE 4 138.00 138KV CKT 1	135.0	5.47%	BENTON - WICHITA 345KV CKT 1	CHISHOLM - MAIZEE 138KV CKT 1 #1	Upgrade disconnect switches, wavetrap, breaker, jumpers
5	18WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	101.3	12.53%	CLEVELAND - SOONER 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	107.9	16.23%	OGE3TERM14	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	107.7	16.18%	OGE3TERM12	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	110.9	14.64%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	14WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	102.3	12.52%	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23SP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	102.3	16.90%	ARCADIA - SEMINOLE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.3	17.10%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23SP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	105.4	16.92%	GRACEMONT - MINCO 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	14WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	107.1	14.18%	ARCADIA - SEMINOLE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.8	15.73%	SPP-WERE-90	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	102.4	13.44%	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.6	15.73%	SPP-WERE-91	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.9	15.19%	WRTOD400	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	109.3	16.38%	SPP-AEPW-32	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	118.2	16.92%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.5	11.96%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	115.5	19.49%	LAWTON EASTSIDE - SUNNYSIDE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	115.2	17.21%	CLEVELAND - SOONER 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	101.2	15.19%	HOYT - STRANGER CREEK 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	113.8	13.25%	ARCADIA - SEMINOLE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	122.1	14.83%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.3	13.56%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	106.6	16.22%	HOYT - STRANGER CREEK 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18SP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	100.2	14.00%	GRACEMONT - MINCO 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	104.1	11.75%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	105.9	16.17%	QUANEX TAP - QUANEXSS 161.00 161KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23SP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	100.4	15.63%	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	104.4	16.20%	ROSE HILL - WOLF CREEK 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	104.9	16.17%	BASE CASE	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	128.8	18.70%	ARCADIA - SEMINOLE 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	23WP	OKGE	OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	107.0	16.22%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap
5	18WP	OKGE	OKGE	CIMARRON - SARA 138KV CKT 1	103.5	3.91%	CIMARRON - DRAPER LAKE 345KV CKT 1	CIMARRON - SARA 138KV CKT 1	Rebuild 9.56 miles of line
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.1	16.99%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	117.3	17.04%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola - Gill 138kV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23SP	WFEC	AEPW	ELK CITY - RED HILLS WIND 138KV CKT 1	111.4	3.13%	GRACEMONT - MINCO 345KV CKT 1	ELK CITY - RED HILLS WIND 138KV CKT 1	Upgrade Elk City to RHWIND4 TO 1113
5	18WP	WFEC	AEPW	ELK CITY - RED HILLS WIND 138KV CKT 1	123.7	3.07%	ELK CITY - FALCON ROAD 138KV CKT 1	ELK CITY - RED HILLS WIND 138KV CKT 1	Upgrade Elk City to RHWIND4 TO 1113
5	18WP	WFEC	AEPW	ELK CITY - RED HILLS WIND 138KV CKT 1	102.4	3.07%	MOREWOOD SW - MORWOOD 138KV CKT 1	ELK CITY - RED HILLS WIND 138KV CKT 1	Upgrade Elk City to RHWIND4 TO 1113

5	18WP	WFEC	AEPW	ELK CITY - RED HILLS WIND 138KV CKT 1	102.3	3.07%	BRANTLEY - MORWOOD 138KV CKT 1	ELK CITY - RED HILLS WIND 138KV CKT 1	Upgrade Elk City to RHWIND4 TO 1113
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.5	15.18%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Viola - Gill 138KV CKT 1	Build new 138KV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	23SP	WERE	WERE	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	100.9	5.00%	WRTOD400	latan - Jeffrey Energy Center 345 kV KACP	Build 14.2 miles of new 345 kV
5	23SP	WERE	WERE	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	100.1	4.98%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	latan - Jeffrey Energy Center 345 kV KACP	Build 14.2 miles of new 345 kV
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	115.9	11.05%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola - Gill 138KV CKT 1	Build new 138KV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.
5	18SP	AEPW	AEPW	ENOWILT - LONE OAK 138KV CKT 1	102.9	3.83%	PITTSBURG - VALLIANT 345KV CKT 1	ENOWILT - LONE OAK 138KV CKT 1	Rebuild 0.32 miles of 3/0 CWC with 1272 ACSR. Replace jumpers @ Lone Oak
5	18SP	AEPW	AEPW	ENOWILT - SARDIS 138KV CKT 1	101.2	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	ENOWILT - LONE OAK 138KV CKT 1	Rebuild 0.32 miles of 3/0 CWC with 1272 ACSR. Replace jumpers @ Lone Oak
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	110.9	14.64%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	23SP	WERE	WERE	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	137.1	3.99%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18SP	WERE	WERE	EVANS ENERGY CENTER NORTH - MAIZEW 4 138.00 138KV CKT 1	139.4	5.47%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.3	17.10%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	23SP	GRDA	AEPW	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1	105.3	10.57%	7JASPER 345.00 - BLACKBERRY 345KV CKT 1	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1 AEPW	Replace Terminal Equipment
5	23SP	GRDA	AEPW	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1	101.5	10.57%	7JASPER 345.00 - MORGAN 345KV CKT 1	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1 AEPW	Replace Terminal Equipment
5	23SP	GRDA	AEPW	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1	101.1	9.69%	GEN509394 1-FLINT CREEK	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1 AEPW	Replace Terminal Equipment
5	18WP	OKGE	WFEC	FPL SWITCH - MOORELAND 138KV CKT 1	109.0	8.20%	GENS20997 1-MORIND2	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.8	15.73%	SPP-WERE-90	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	106.6	15.73%	SPP-WERE-91	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	WFEC	FPL SWITCH - MOORELAND 138KV CKT 1	111.0	9.22%	WOODWARD (WOODWARD2) 138/69/13.2KV TRANSFORMER CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	WFEC	FPL SWITCH - MOORELAND 138KV CKT 1	100.1	8.50%	SPP-SWPS-04	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.9	15.19%	WRTOD400	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	WFEC	FPL SWITCH - MOORELAND 138KV CKT 1	110.6	8.71%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	118.2	16.92%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.5	11.96%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	124.9	8.20%	GENS20997 1-MORIND2	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	120.6	7.69%	BASE CASE	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	101.2	15.19%	HOYT - STRANGER CREEK 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	113.8	8.50%	SPP-SWPS-04	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	131.4	9.22%	WOODWARD (WOODWARD2) 138/69/13.2KV TRANSFORMER CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	139.8	8.65%	WOODWARD (WOODWARD2) 138/69/13.2KV TRANSFORMER CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	115.8	7.96%	SPP-SWPS-04	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	122.1	14.83%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	103.3	13.56%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	106.2	9.17%	SPP-AEPW-32	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	136.8	8.08%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	104.1	11.75%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	109.2	8.20%	SPP-SWPS-03	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	109.5	7.71%	WRTOD400	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	14WP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.1	16.99%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	113.1	8.20%	SPP-SWPS-03	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	113.1	8.20%	BASE CASE	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	107.5	8.23%	LACYGNE - NEOSHO 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	109.4	7.71%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	129.7	8.71%	RENFROW7 345.00 - VIOLA 7 345.00 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18WP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	106.2	8.21%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	108.9	7.75%	LACYGNE - NEOSHO 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	23SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	107.6	7.71%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	18SP	OKGE	OKGE	FPL SWITCH - WOODWARD 138KV CKT 1	133.6	7.69%	GENS20998 1-MORIND3	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	23SP	OKGE	WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	108.3	6.15%	HAMMETT TAP - HAMMETT 138KV CKT 1	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 Accelerate	Replace Terminal Equipment
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	117.4	17.04%	HUNTERS7 345.00 - WOODRING 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	105.5	15.18%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	23SP	OKGE	WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	109.6	8.62%	GRACEMONT - MINCO 345KV CKT 1	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 Accelerate	Replace Terminal Equipment
5	23SP	OKGE	WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	105.4	6.15%	HAMMETT2 - MEEKER 138KV CKT 1	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 Accelerate	Replace Terminal Equipment
5	23SP	WERE	WERE	BENTON - WICHITA 345KV CKT 1	115.9	11.05%	GENS32751 1-WOLF CREEK GENERATING STATION UNIT 1	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation
5	18SP	OKGE	WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1	104.0	3.60%	GRACEMONT - MINCO 345KV CKT 1	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 Accelerate	Replace Terminal Equipment
5	14WP	OKGE	WFEC	SPSNORTH 3TH	112.4	5.63%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron.
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	101.7	6.76%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron.
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	139.7	6.55%	SPP-AEPW-01	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps	
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	106.2	7.48%	BASE CASE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	140.2	5.04%	SPP-AEPW-32	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	110.9	7.75%	A103	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	110.6	7.71%	OVERTON-TRF	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	115.9	9.85%	A103	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	133.6	5.10%	SPP-AEPW-35	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	111.3	9.52%	BASE CASE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	110.7	3.86%	A103	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	118.7	7.50%	GEN336821 1-GRAND GULF UNIT	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	115.4	9.32%	SPP-AEPW-01	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	119.5	9.67%	PITTSBURG - VALLIANT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	117.3	7.43%	SPP-AEPW-32	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	122.4	11.95%	SPP-AEPW-01	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	117.1	7.48%	OKLAUN - OKLAUNION 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.2	3.75%	BASE CASE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	102.6	6.78%	LACYGNE - NEOSHO 345KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron.
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	117.9	4.76%	SPP-AEPW-01	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	129.6	5.08%	BASE CASE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	117.0	7.41%	SPP-AEPW-32	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	122.4	9.48%	SPP-AEPW-32	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	116.3	9.99%	PITTSBURG - VALLIANT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	117.1	3.75%	OKLAUN - OKLAUNION 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	124.2	9.52%	GEN338153 1-WATERFORD UNIT#3	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.8	7.94%	GENS4288 1-CLR 3 0.690	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron.
5	23WP	OKGE	OKGE	FT SMITH - MUSKOG					



5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	107.9	3.76%	HOYT - STRANGER CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	103.3	7.94%	GEN527903 1-HOBBS PLANT #3 (ST)	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.3	7.55%	HOYT - STRANGER CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	132.6	5.13%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	109.1	7.53%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	131.1	5.13%	HOYT - STRANGER CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.7	3.75%	LACYGNE - STILLWELL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.4	3.76%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	104.6	7.25%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	104.5	3.58%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	126.6	4.92%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	104.2	7.23%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	109.7	9.21%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	129.4	5.09%	MCCREDIE - THOMAS HILL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	106.8	7.50%	MCCREDIE - THOMAS HILL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	112.0	9.53%	MCCREDIE - THOMAS HILL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	106.7	3.74%	MCCREDIE - THOMAS HILL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	106.6	3.75%	KELCO - OKMULGEE 138KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	131.8	5.10%	LACYGNE - STILLWELL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	105.6	3.75%	ROSE HILL - WOLF CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	114.0	9.66%	LACYGNE - STILLWELL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	107.3	3.73%	LACYGNE - WEST GARDNER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	128.0	5.11%	ROSE HILL - WOLF CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	105.6	7.51%	ROSE HILL - WOLF CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	109.3	7.53%	LACYGNE - STILLWELL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	130.0	5.08%	LACYGNE - WEST GARDNER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	107.3	7.49%	LACYGNE - WEST GARDNER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	112.4	9.53%	LACYGNE - WEST GARDNER 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.7	7.53%	ROSE HILL - WOLF CREEK 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	123.8	10.47%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	125.8	5.27%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	18SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.7	7.51%	LACYGNE - STILLWELL 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.9	8.86%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	18WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	102.8	6.01%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	14WP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	108.3	7.50%	BASE CASE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	144.2	6.93%	PITTSBURG - VALLIANT 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	124.2	5.71%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23SP	OKGE	OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	140.2	5.06%	OKLAUM - OKLAUMON 345KV CKT 1	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps
5	23WP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	106.2	9.34%	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	18SP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	100.9	7.35%	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	14WP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	101.9	7.39%	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	18SP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	132.3	5.72%	BASE CASE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	18WP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	101.6	3.67%	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	23SP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	118.7	4.96%	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	23SP	OKGE	OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	101.0	5.88%	PITTSBURG - VALLIANT 345KV CKT 1	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.7	8.86%	SPP-SWPS-K39	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	18SP	OKGE	OKGE	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	120.9	5.44%	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	14WP	OKGE	OKGE	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	116.0	5.28%	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	23SP	OKGE	OKGE	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	139.9	3.74%	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	23WP	OKGE	OKGE	FT SMITH (FTSMITH5) 345/16/13.8KV TRANSFORMER CKT 5	123.8	6.92%	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub
5	14WP	WFEC	OKGE	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	108.2	3.06%	KNOBHILL - MOORELAND 138KV CKT 1	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	Reset CT
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	117.6	9.50%	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	101.8	8.64%	SPP-SWPS-04	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23SP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	105.0	6.34%	BASE CASE	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	113.1	7.24%	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23SP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	102.0	7.65%	CIMARRON - DRAPER LAKE 345KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	122.1	10.55%	SPP-SWPS-K31	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.9	8.12%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	104.8	8.55%	GEN560738 1-G13 016 2 18.000	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.4	8.83%	SPP-SWPS-V29	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.6	8.20%	SPP-SWPS-K31	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	104.7	8.74%	ELGIN JUNCTION - SOUTHWESTERN STATION 138KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	102.8	8.21%	SPP-SWPS-02	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.7	5.20%	SPP-SWPS-02A	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	101.6	8.68%	OGE3TERM41	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	109.7	8.55%	BASE CASE	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	100.6	8.71%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	117.1	8.05%	SPP-SWPS-K31	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23SP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	110.3	8.24%	PITTSBURG - SEMINOLE 345KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	118.1	7.98%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.4	6.87%	GEN523973 1-HARRINGTON GEN #3 24 KV	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23WP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	108.0	9.98%	CIMARRON - DRAPER LAKE 345KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	101.8	8.16%	GEN524286 1-CLR 3 0.6900	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	112.8	9.98%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron
5	23SP	OKGE	AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1	100.9	7.12%	PITTSBURG - VALLIANT 345KV CKT 1	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	102.6	6.76%	TEXAS COUNTY INTERCHANGE - Tri County REC- Waiting Sub 115KV CKT 1	Cimarr	



5	14WP	NPPD	NPPD	GRAND ISLAND - SWEETWATER 345KV CKT 1	109.6	4.15%	LACYGNE - WEST GARDNER 345KV CKT 1	GRAND ISLAND - SWEETWATER 345KV CKT 2	Build 63.4 mile second circuit
5	14WP			SPSNORTH_STX POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	112.4	5.63%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	SPS	SPS	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	101.7	6.76%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	103.3	10.71%	SPP-AEPW-32	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	108.2	19.30%	7JASPER - 345.00 - BLACKBERRY 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	115.8	24.17%	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	103.2	11.35%	SPP-GRDA-03	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	106.8	3.09%	7JASPER - 345.00 - BLACKBERRY 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	102.6	6.78%	LACYGNE - NEOSHO 345KV CKT 1	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	122.6	11.61%	7JASPER - 345.00 - BLACKBERRY 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	104.6	3.79%	7JASPER - 345.00 - MORGAN 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.8	7.94%	GEN524286 1-CLR 3 0.6900	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	115.7	3.05%	CHAMBER SPRINGS - CLARKSVILLE 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	104.9	19.34%	7JASPER - 345.00 - MORGAN 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	118.3	11.59%	7JASPER - 345.00 - MORGAN 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	108.3	3.89%	7JASPER - 345.00 - BLACKBERRY 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	100.4	10.72%	BASE CASE	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	102.8	10.75%	WRT0D400	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	101.8	10.75%	HOYT - STRANGER CREEK 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	103.3	7.94%	GEN527903 1-HOBBS PLANT #3 (ST)	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	123.8	10.47%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	119.0	10.72%	GEN50986 1-FUNT CREEK	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	100.9	10.72%	15TH & FULTON TAP - TULSA SOUTHEAST 138KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23WP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	125.8	5.27%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	102.6	10.72%	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23SP	GRDA	GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1	101.2	10.72%	LACYGNE - WEST GARDNER 345KV CKT 1	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment
5	23WP	GRDA	OKGE	HIGHWAY 59 - TAHELOJAH 161KV CKT 1	119.0	3.13%	FT SMITH - MUSKOGEE 345KV CKT 1	Muskogee - VBI 345 kv with 345/161 kv bus tie near VBI	Build 70.95 mile 345 kv line plus two new 345/161 kv bus ties near VBI sub and 10 miles of 161 kv line
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.9	8.86%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18WP	SPS	SPS	SPSNORTH_STX	102.8	6.01%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	OKGE	OKGE	HIGHWAY 59 - VBI 161KV CKT 1	127.0	3.13%	FT SMITH - MUSKOGEE 345KV CKT 1	Muskogee - VBI 345 kv with 345/161 kv bus tie near VBI	Build 70.95 mile 345 kv line plus two new 345/161 kv bus ties near VBI sub and 10 miles of 161 kv line
5	23SP			SPSNORTH_STX	124.2	5.71%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18SP			SPSNORTH_STX	132.3	5.72%	BASE CASE	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	SPS	SPS	Hitchland Interchange (H TB8015502) 345/230/13.2KV TRANSFORMER CKT 1	106.7	6.36%	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	Beaver County Substation Expansion	Expand Beaver County Substation to tap the Hitchland to Woodward circuit 2
5	18WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	131.8	3.19%	OCHLTREE (H TP80219601) 230/115/13.2KV TRANSFORMER CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	18SP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	124.1	3.75%	SPP-SWPS-04	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	23SP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	140.4	3.26%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	23WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	133.4	3.18%	SPP-SWPS-04	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	18WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	135.0	4.19%	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	23SP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	144.2	3.85%	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	18WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	137.2	4.19%	SPP-SWPS-04	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	23WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	141.3	3.18%	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	14WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	130.8	3.25%	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	14WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	122.0	3.25%	SPP-SWPS-04	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	18WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	130.2	3.44%	SPP-SWPS-K31	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	14WP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	120.2	3.25%	Hitchland Interchange - POTTER COUNTY INTERCHANGE 345KV CKT 1	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	23SP	SPS	SPS	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	146.0	3.85%	SPP-SWPS-04	Hitchland 230/115/13.2 kv Transformer Ckt 2	Build a second 230/115/13.2 kv transformer at Hitchland.
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.7	8.86%	SPP-SWPS-K39	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	117.6	9.50%	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	103.9	6.19%	Hitchland Interchange (H TB8015502) 345/230/13.2KV TRANSFORMER CKT 1	Beaver County Substation Expansion	Expand Beaver County Substation to tap the Hitchland to Woodward circuit 2
5	23SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	106.7	6.36%	Hitchland Interchange (H TB8015502) 345/230/13.2KV TRANSFORMER CKT 1	Beaver County Substation Expansion	Expand Beaver County Substation to tap the Hitchland to Woodward circuit 2
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	123.2	4.28%	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	113.1	7.24%	HITCHLAND INTERCHANGE (H TP80148301) 230/115/13.2KV TRANSFORMER CKT 1	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	103.3	3.78%	JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	104.7	4.49%	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	126.6	5.04%	SWISSVALE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	125.5	4.77%	EMPORIA ENERGY CENTER - SWISSVALE 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	115.1	5.54%	SWISSVALE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	122.1	10.55%	SPP-SWPS-K31	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	100.8	4.48%	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	127.1	4.18%	AUBURN ROAD - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	119.7	3.62%	JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	121.4	5.12%	SWISSVALE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	115.3	3.86%	JEFFREY ENERGY CENTER - MORRIS COUNTY 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	108.0	4.07%	A03	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.2	4.11%	SPP-WERE-85	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.9	8.12%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.4	8.83%	SPP-SWPS-V29	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	113.6	4.03%	SPP-AEPW-32	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.7	4.21%	SPP-AEPW-32	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.6	8.20%	SPP-SWPS-K31	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	103.1	5.33%	SWISSVALE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.7	5.20%	SPP-SWPS-02A	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	117.1	8.05%	SPP-SWPS-K31	Ek City 345/230 kv	Expand Ek City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Ek City.
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	101.3	4.35%	SPP-WERE-85	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345kv line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP								



5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	116.4	3.92%	LACYGNE - STILLWELL 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	108.7	3.97%	LACYGNE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.3	4.00%	MIDLAND JUNCTION (MIDJ126X) 230/115/18.0KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.6	3.94%	LACYGNE - STILLWELL 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	101.0	4.21%	LACYGNE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	110.5	3.89%	ABILENE ENERGY CENTER 115/34.5KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	116.2	3.91%	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	108.2	3.68%	LACYGNE - NEOSHO 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	112.7	3.87%	LACYGNE - WEST GARDNER 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	106.1	3.96%	MCCRIDE - THOMAS HILL 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.7	3.90%	STRANGER CREEK (STRANGER 1X) 345/115/14.4KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.7	3.87%	MCCRIDE - THOMAS HILL 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	106.8	3.96%	ABILENE ENERGY CENTER 115/34.5KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.8	3.85%	DOLET HILLS - SOUTHWEST SHREVEPORT 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	104.3	4.28%	LACYGNE - STILLWELL 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	118.1	7.98%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.0	4.00%	MIDLAND JUNCTION - PENTAGON 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.6	4.00%	LAWRENCE HILL - MIDLAND JUNCTION 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	116.0	3.70%	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.9	3.79%	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	101.9	4.06%	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	107.4	6.87%	GEN52973 1-HARRINGTON GEN #9 24 KV	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	105.1	4.06%	ROSE HILL - WOLF CREEK 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	14WP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	102.2	4.25%	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	106.2	3.98%	EVANS ENERGY CENTER NORTH - SEDGWICK COUNTY NO. 12 COLWICH 138KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	112.9	4.01%	SPP-WERE-85	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.3	3.90%	LAWRENCE HILL - MIDLAND JUNCTION 230KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.3	4.05%	BENTON - WOLF CREEK 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	105.5	4.14%	BENTON - WOLF CREEK 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	112.1	4.01%	AUBURN ROAD (AUBRN77X) 230/115/13.8KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.6	3.88%	EAST MANHATTAN (EMANH73X) 230/115/18.0KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.3	3.98%	COWSKIN (COWSKN1X) 138/69/13.2KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.0	3.89%	COWSKIN (COWSKN1X) 138/69/13.2KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.6	3.98%	EAST MANHATTAN (EMANH73X) 230/115/18.0KV TRANSFORMER CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.8	3.90%	TECUMSEH ENERGY CENTER - TECUMSEH HILL 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	101.8	8.16%	GEN524286 1-CLR 3 0.6900	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.5	3.92%	AUBURN ROAD - INDIAN HILLS 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.8	4.01%	AUBURN ROAD - INDIAN HILLS 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	111.6	3.92%	AUBURN ROAD - SHERWOOD 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.0	3.98%	ROSE HILL - WOLF CREEK 345KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.8	4.02%	AUBURN ROAD - SHERWOOD 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	109.7	3.88%	EVANS ENERGY CENTER NORTH - SEDGWICK COUNTY NO. 12 COLWICH 138KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	106.1	3.99%	TECUMSEH ENERGY CENTER - TECUMSEH HILL 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	110.6	3.90%	EUDORA TOWNSHIP - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	106.9	4.00%	EUDORA TOWNSHIP - WAKARUSA JUNCTION SWITCHING STATION 115KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	23SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	110.7	3.89%	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	WERE	WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	107.0	3.99%	EVANS ENERGY CENTER SOUTH - LAKERIDGE 138KV CKT 1	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Rebuild the JEC - Hoyt 345KV line as a single circuit with new conductor, poles, and shield wire and substation work
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	112.8	9.38%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	18SP	OKGE	OKGE	POTTER COUNTY INTERCHANGE (WAUK 90343-A) KINZE - MCCLROY 138KV CKT 1	104.1	3.05%	CLEVELAND - SOONER 345KV CKT 1	KINZE - MCCLROY 138KV CKT 1	Rebuild 1.97 miles
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	102.6	6.76%	TEXAS COUNTY INTERCHANGE - Tri County REC-Whiting Sub 115KV CKT 1	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	23SP	AEPW	AEPW	LYDIA - VALLIANT 345KV CKT 1	101.9	26.94%	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	23WP	AEPW	AEPW	LYDIA - VALLIANT 345KV CKT 1	104.6	43.47%	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	18WP	AEPW	AEPW	LYDIA - VALLIANT 345KV CKT 1	111.7	22.27%	NORTHWEST TEXARKANA - VALLIANT 345KV CKT 1	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	23SP	WERE	WERE	MAIZE - MAIZE 4 138.00 138KV CKT 1	106.7	3.99%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	18SP	WERE	WERE	MAIZE - MAIZE 4 138.00 138KV CKT 1	107.9	5.47%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	18SP	WERE	WERE	MAIZE - MAIZE 4 138.00 138KV CKT 1	111.4	5.47%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	23SP	WERE	WERE	MAIZE - MAIZE 4 138.00 138KV CKT 1	109.6	3.99%	BENTON - WICHITA 345KV CKT 1	Viola 345/138KV Transformer Ckt 1	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	23WP	OKGE	OKGE	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	105.8	50.84%	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	Rebuild 59.63 miles of line
5	23SP	OKGE	OKGE	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	104.0	52.08%	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 2	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	Rebuild 59.63 miles of line
5	18WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	108.6	8.86%	TEXAS COUNTY INTERCHANGE - Tri County REC-Whiting Sub 115KV CKT 1	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	23SP	SUNC	SUNC	MULLERGREEN - SPEARVILLE 230KV CKT 1	104.5	3.62%	POST ROCK - SPEARVILLE 345KV CKT 1	MULLERGREEN - SPEARVILLE 230KV CKT 1	Rebuild 65 miles
5	23SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.8	9.63%	HITCHLAND INTERCHANGE - MOORE COUNTY INTERCHANGE 230KV CKT 1	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.8	5.20%	SPP-SWPS-02	Elk City 345/230 kv	Expand Elk City substation (or build new station). Install a 345/230 kv 675 MVA transformer at Elk City.
5	18SP	SUNC	SUNC	MULLERGREEN - SPEARVILLE 230KV CKT 1	104.2	3.92%	POST ROCK - SPEARVILLE 345KV CKT 1	MULLERGREEN - SPEARVILLE 230KV CKT 1	Rebuild 65 miles
5	18WP	WERE	EMDE	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1	104.0	3.11%	7JASPER - 345.00 - BLACKBERRY 345KV CKT 1	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	18WP	WERE	EMDE	NEOSHO - SUB 452 - RIVERTON 161KV CKT 1	107.7	3.77%	BLACKBERRY - NEOSHO 345KV CKT 1	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345KV from KCPL Lacygne - AMRN Mariosa
5	23SP	AEPW	AEPW	NORTH NEW BOSTON - NW TEXARKANA-BANN T 138KV CKT 1	106.6	3.69%	LYDIA - WELSH 345KV CKT 1	NORTH NEW BOSTON - NW TEXARKANA-BANN T 138KV CKT 1	Rebuild 14.19 miles to 1533.6 ACSR/TW 54/19
5	14WP	SPS	SPS	SPSNORTH_STX	112.4	6.63%	BASE CASE	Elk City to Gracemont 345KV AEPW	Build new 46.5 mile 345 kv line from Elk City to Gracemont (AEP portion).
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	101.7	6.76%	BASE CASE	Elk City to Gracemont 345KV AEPW	Build new 46.5 mile 345 kv line from Elk City to Gracemont (AEP portion).
5	23SP	AEPW	AEPW	NORTH NEW BOSTON - NW TEXARKANA-BANN T 138KV CKT 1	109.0	3.91%	SPP-AEPW-04	NORTH NEW BOSTON - NW TEXARKANA-BANN T 138KV CKT 1	Rebuild 14.19 miles to 1533.6 ACSR/TW 54/19
5	23WP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	102.6	6.78%	LACYGNE - NEOSHO 345KV CKT 1	Elk City to Gracemont 345KV AEPW	Build new 46.5 mile 345 kv line from Elk City to Gracemont (AEP portion).
5	18SP	SPS	SPS	POTTER COUNTY INTERCHANGE (WAUK 90343-A) 345/230/13.2KV TRANSFORMER CKT 1	106.8	7.94%	GEN524286 1-CLR 3 0.6900	Elk City to Gracemont 345KV AEPW	











































































5	18SP	AEPW	AEPW	ENOWILT - LONE OAK 138KV CKT 1	102.9	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	CLAYTON - NASHOBA 138KV CKT 1	Rebuild 11.57 miles of 3/0 CWC with 1272 ACSR
5	18SP	AEPW	AEPW	ENOWILT - SARDIS 138KV CKT 1	101.2	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	CLAYTON - NASHOBA 138KV CKT 1	Rebuild 11.57 miles of 3/0 CWC with 1272 ACSR
5	18SP	AEPW	AEPW	ENOWILT - LONE OAK 138KV CKT 1	102.9	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	CLAYTON - SARDIS 138KV CKT 1	Rebuild 1.46 miles of 3/0 CWC with 1272 ACSR
5	18SP	AEPW	AEPW	ENOWILT - SARDIS 138KV CKT 1	101.2	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	CLAYTON - SARDIS 138KV CKT 1	Rebuild 1.46 miles of 3/0 CWC with 1272 ACSR
5	18SP	AEPW	AEPW	ENOWILT - LONE OAK 138KV CKT 1	102.9	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	ENOWILT - SARDIS 138KV CKT 1	Rebuild 13.8 miles of 3/0 CWC with 1272 ACSR
5	18SP	AEPW	AEPW	ENOWILT - SARDIS 138KV CKT 1	101.2	3.93%	PITTSBURG - VALLIANT 345KV CKT 1	ENOWILT - SARDIS 138KV CKT 1	Rebuild 13.8 miles of 3/0 CWC with 1272 ACSR
5	14WP	WFEC	OKGE	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	108.2	3.06%	KNOBHILL - MOORELAND 138KV CKT 1	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 18 mile 345 kV line from Mathewson to Cimarron.
5	14WP	WFEC	OKGE	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	108.2	3.06%	KNOBHILL - MOORELAND 138KV CKT 1	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.
5	14WP	WFEC	OKGE	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	108.2	3.06%	KNOBHILL - MOORELAND 138KV CKT 1	Mathewson 345 kV Accelerate	Build new Mathewson 345 kV substation at the intersection of the Woodring-Cimarron and the existing Northwest - Tatonga 345 kV lines.
5	14WP	WFEC	OKGE	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	108.2	3.06%	KNOBHILL - MOORELAND 138KV CKT 1	Tatonga - Woodward EHV 345 kV Ckt 2 Accelerate	Build new 49-mile Woodward EHV - Tatonga 345 kV Ckt 2 line.
5	18SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	103.9	6.19%	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	Potter to Tolk 345 kV	Build 111 mile 345 kV line from Potter to Tolk. Further study analysis will be performed with regard to the SPS North-South Stability Limit to determine whether its rating may be increased based on approved SPP Expansion Plan Network Upgrades scheduled 1
5	23SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	106.7	6.36%	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	Potter to Tolk 345 kV	Build 111 mile 345 kV line from Potter to Tolk. Further study analysis will be performed with regard to the SPS North-South Stability Limit to determine whether its rating may be increased based on approved SPP Expansion Plan Network Upgrades scheduled 1
5	23SP	SPS	SPS	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	106.7	6.36%	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	Potter to Tolk 345 kV	Build 111 mile 345 kV line from Potter to Tolk. Further study analysis will be performed with regard to the SPS North-South Stability Limit to determine whether its rating may be increased based on approved SPP Expansion Plan Network Upgrades scheduled 1
5	18SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	103.9	6.19%	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	Optima 345/115 kV	New 345/115kV substation between Texas County to Cole 115kV line and Finney to Hitchland 345 kV line, Rebuild Texas County to Cole 115kV line
5	23SP	SPS	SPS	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	106.7	6.36%	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	Optima 345/115 kV	New 345/115kV substation between Texas County to Cole 115kV line and Finney to Hitchland 345 kV line, Rebuild Texas County to Cole 115kV line
5	23SP	SPS	SPS	Hitchland Interchange (H TB80155502) 345/230/13.2KV TRANSFORMER CKT 1	106.7	6.36%	Hitchland Interchange (UPDATE DATA) 345/230/13.2KV TRANSFORMER CKT 2	Optima 345/115 kV	New 345/115kV substation between Texas County to Cole 115kV line and Finney to Hitchland 345 kV line, Rebuild Texas County to Cole 115kV line

Scenario	Season	Area	Monitored Bus with Violation	Transfer Case Voltage (PU)	Outaged Branch Causing Overload	Upgrade Name	Solution

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
OKGE	CIMARRON - SARA 138KV CKT 1	Rebuild 9.56 miles of line	10/1/2015	10/1/2017	\$12,872,963
OKGE	MATHWSN7 345.00 - TATONGA7 345.00 345KV CKT 1	Rebuild 59.63 miles of line	6/1/2019	6/1/2021	\$80,294,433

**Construction Pending Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.**

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)	Estimated Engineering & Construction Cost
AEPW	BARTLESVILLE COMANCHE - MOUND ROAD 138KV CKT 1	Rebuild 3.8 miles with 1533.3 ACSR/TW	10/1/2014	6/1/2017	\$ 4,750,000
AEPW	BETHEL - BROKEN BOW 138KV CKT 1	Rebuild 9.19 miles of 3/0 Copperweld with 1272 ACSR	6/1/2015	6/1/2018	\$ 9,190,000
AEPW	BETHEL - NASHOBA 138KV CKT 1	Rebuild 22.43 miles of 3/0 Copperweld with 1272 ACSR	6/1/2015	6/1/2018	\$ 22,430,000
AEPW	CLAYTON - NASHOBA 138KV CKT 1	Rebuild 11.57 miles of 3/0 CWC with 1272 ACSR	6/1/2015	6/1/2018	\$ 11,570,000
AEPW	CLAYTON - SARDIS 138KV CKT 1	Rebuild 1.46 miles of 3/0 CWC with 1272 ACSR	6/1/2015	6/1/2018	\$ 1,460,000
AEPW	ENOWILT - LONE OAK 138KV CKT 1	Rebuild 0.32 miles of 3/0 CWC with 1272 ACSR. Replace jumpers @ Lone Oak	6/1/2015	6/1/2017	\$ 625,000
AEPW	ENOWILT - SARDIS 138KV CKT 1	Rebuild 13.8 miles of 3/0 CWC with 1272 ACSR	6/1/2015	6/1/2018	\$ 13,800,000
AEPW	FLINT CREEK - SILOAM SPRINGS TAP 345KV CKT 1 AEPW	Replace Terminal Equipment	6/1/2019	6/1/2019	\$ 1,220,000
AEPW	GRACEMONT - LAWTON EASTSIDE 345KV CKT 1 Accelerate	Replace Terminal Equipment	10/1/2015	6/1/2016	\$ 305,000
AEPW	NORTH NEW BOSTON - NW TEXARKANA-BANN T 138KV CKT 1	Rebuild 14.19 miles to 1533.6 ACSR/TW 54/19	6/1/2015	6/1/2017	\$ 17,028,000
AEPW	NORTHWEST TEXARKANA - NW TEXARKANA-BANN T 138KV CKT 1	Rebuild 0.3 miles	6/1/2019	6/1/2019	\$ 360,000
AEPW	PAWHUSKA TAP - WEST PAWHUSKA 138KV CKT 1	Rebuild 5.98 miles with 1533.3 ACSR/TW	6/1/2015	6/1/2018	\$ 6,000,000
AEPW	PITTSBURG - VALLIANT 345KV CKT 1	Replace wavetrap and associated equipment at Pittsburg	6/1/2019	6/1/2019	\$ 303,750
AEPW	SHIDLER - WEST PAWHUSKA 138KV CKT 1	Rebuild 16.11 miles with 1533.3 ACSR/TW	6/1/2015	6/1/2018	\$ 16,200,000
AMRN	Lacygne - Mariosa 345KV AMRN	Indeterminate	10/1/2014	6/1/2019	\$ 12,000,000
EES	Arkansas Nuclear One 500/345 Transformer	Build 500/345 kV Transformer at ANO	10/1/2014	6/1/2019	\$ 12,000,000
EES	VBI - Arkansas Nuclear One 345KV EES	Indeterminate	10/1/2014	6/1/2019	\$ 3,300,000
GRDA	GRDA1 - SILOAM SPRINGS TAP 345KV CKT 1 #2	Replace Terminal Equipment	6/1/2019	6/1/2019	\$ 14,089,880
KACP	latan - Jeffrey Energy Center 345 kV KACP	Build 14.2 miles of new 345 kV	6/1/2014	6/1/2019	\$ 275,120,000
KACP	Lacygne - Mariosa 345KV KACP	Build approximately 181 miles of 345kV from KCPL Lacygne - AMRN Mariosa	10/1/2014	6/1/2019	\$ 36,107,610
MKEC	MULLERGREEN - SPEARVILLE 230KV CKT 1	Rebuild 65 miles	10/1/2014	6/1/2019	\$ 96,288,750
NPPD	GRAND ISLAND - SWEETWATER 345KV CKT 2	Build 63.4 mile second circuit	10/1/2014	6/1/2019	\$ 150,000
OKGE	ADABELL - VBI 161KV CKT 1	Replace existing 800 amp wave trap with 1200 amp in VBI sub	10/1/2014	6/1/2016	\$ 14,630,926
OKGE	Beaver County Substation Expansion	Expand Beaver County Substation to tap the Hitchland to Woodward circuit 2	6/1/2015	6/1/2018	\$ 150,000
OKGE	CIMARRON - DRAPER LAKE 345KV CKT 1	Increase capacity of Draper Lake CT and Cimarron wave trap	10/1/2015	6/1/2016	\$ 32,780,617
OKGE	Cimarron - Mathewson 345 kV Ckt 1 Accelerate	Build new 16 mile 345 kV line from Mathewson to Cimarron.	10/1/2014	6/1/2015	\$ 14,500,000
OKGE	FT SMITH (FTSMITH1) 500/345/13.8KV TRANSFORMER CKT 1	Install 2nd 500/345 kV bus tie in Ft. Smith Sub	10/1/2014	6/1/2019	\$ 1,800,000
OKGE	FT SMITH - MUSKOGEE 345KV CKT 1	Upgrade Ft. Smith 345 kV breakers and switches to 2000 amps	6/1/2019	6/1/2019	\$ 1,615,400
OKGE	KINZE - MCELROY 138KV CKT 1	Rebuild 1.97 miles	6/1/2015	6/1/2018	\$ 82,139,900
OKGE	Mathewson - Tatonga 345 kV Ckt 2 Accelerate	Build new 61 mile Tatonga - Mathewson 345 kV line.	10/1/2014	6/1/2015	\$ 20,169,602
OKGE	Mathewson 345 kV Accelerate	Build new Mathewson 345 kV substation at the intersection of the Woodring-Cimarron and the existing Northwest - Tatonga 345 kV lines.	10/1/2014	6/1/2015	\$ 129,000,000
OKGE	Muskogee - VBI 345 kV with 345/161 kV bus tie near VBI	Build 70.95 mile 345 kV line plus two new 345/161 kV bus ties near VBI sub and 10 miles of 161 kV line	6/1/2014	6/1/2019	\$ 71,876,622
OKGE	NORTHWEST 345/138/13.8KV TRANSFORMER CKT 3 Accelerated	Install third 345/138 kV Bus Tie in Northwest Sub	10/1/2014	6/1/2015	\$ 119,355,000
OKGE	Tatonga - Woodward EHV 345 kV Ckt 2 Accelerate	Build new 49-mile Woodward EHV - Tatonga 345 kV Ckt 2 line.	10/1/2014	6/1/2015	\$ 168,852,765
OKGE	VBI - Arkansas Nuclear One 345KV OKGE	Build 73 miles of 345kV line	10/1/2014	6/1/2019	\$ 827,424
SPS	Potter to Tolik 345 kV	Build 111 mile 345 kV line from Potter to Tolik. Further study analysis will be performed with regard to the SPS North-South Stability Limit to determine whether its rating may be increased based on approved SPP Expansion Plan Network Upgrades scheduled t	10/1/2014	12/31/2018	\$ 7,141,250
WERE	CHISHOLM - MAIZE 138KV CKT 1 #1	Upgrade disconnect switches, wavetrap, breaker, jumpers	6/1/2015	6/1/2017	\$ 49,623,119
WERE	CHISHOLM - MAIZE 138KV CKT 1 #2	Rebuild 7.25 miles	6/1/2015	6/1/2017	\$ 128,776,067
WERE	HOYT - JEFFREY ENERGY CENTER 345KV CKT 1	Upgrade disconnect switches, wavetrap, breaker, jumpers	10/1/2014	6/1/2018	\$ 68,950,000
WERE	latan - Jeffrey Energy Center 345 kV WERE	Build 56.8 miles of new 345 kV	10/1/2014	6/1/2019	\$ 225,000
WERE	Viola - Rose Hill 345 kV	Build new 35 mile line from Viola to Rose Hill 345 kV	10/1/2014	6/1/2019	\$ 40,500
WFEC	FRANKLIN SW - MIDWEST TAP 138KV CKT 1 Accelerate	Replace Terminal Equipment	6/1/2015	6/1/2016	\$ 2,260,000
WFEC	GLASS MOUNTAIN - MOORELAND 138KV CKT 1	Reset CT	10/1/2015	10/1/2015	
WFEC	SOUTHWESTERN STATION - WASHITA 138KV CKT 2	Add Second 138 kV line	10/1/2014	6/1/2017	

**Expansion Plan Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.**

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	CHAMBER SPRINGS - FARMINGTON AECC 161KV CKT 1	Rebuild and reconductor 11.1-mile 161 kV line from Chamber Springs to Farmington REC with 2-959.6 ACSR/TW. Upgrade wavetraps, CT ratios, and relay settings at Chamber	6/1/2015	6/1/2015
ITCGP	Line - Clark County - Thistle 345 kV dbl Ckt	Build a new 86 mile double circuit 345 kV line with at least 3000 A capacity from the Thistle 345 kV substation to the new Clark County substation. Build a new 345 kV	10/1/2014	1/1/2015
ITCGP	Line - Spearville - Clark County 345 kV dbl Ckt	Build a new 36 mile double circuit 345 kV line with at least 3000 A capacity from the Spearville substation to the new Clark County substation. Build the Clark County 345 kV	10/1/2014	1/1/2015
ITCGP	XFR - Thistle 345/138 kV	Install a 400 MVA 345/138 kV transformer at the new 345 kV Thistle substation.	10/1/2014	1/1/2015
OKGE	Line - Hitchland - Woodward 345 kV dbl Ckt OKGE	Build a new 92 mile double circuit 345 kV line with at least 3000 A capacity from the Woodward District EHV substation to the SPS interception from the Hitchland substation.	10/1/2014	7/1/2014
OKGE	Line - Thistle - Woodward 345 kV dbl Ckt OKGE	Build a new 79 mile double circuit 345 kV line with at least 3000 A capacity from the Woodward District EHV substation to the Kansas/Oklahoma state border towards the	10/1/2014	1/1/2015
OKGE	Line - Tuco - Woodward 345 kV line OKGE	Build new 345 kV line from Woodward EHV to Border - Project costs now include Border reactor substation	10/1/2014	6/1/2014
PW	Line - Thistle - Wichita 345 kV dbl Ckt PW	Build a new 78 mile double circuit 345 kV line with at least 3000 A capacity from the Wichita substation to the new Thistle 345 kV substation.	10/1/2014	1/1/2015
PW	Line - Thistle - Woodward 345 kV dbl Ckt PW	Build a new 30 mile double circuit 345 kV line with at least 3000 A capacity from the Thistle substation to the Kansas/Oklahoma state border towards the Woodward District	10/1/2014	1/1/2015
SPS	Line - Hitchland - Woodward 345 kV dbl Ckt SPS	Build 30 mile double circuit 345 kV line with at least 3000 A capacity from the Hitchland substation to the OGE interception point from the Woodward District EHV substation.	10/1/2014	7/1/2014
SPS	Line - Tuco - Woodward 345 kV line SPS	Build new 345 kV line from Tuco to OGE Border station near TX/OK Stateline. Install line reactor outside Border station and line reactors at Tuco.	10/1/2014	6/1/2014
WERE	Line - Thistle - Wichita 345 kV dbl Ckt WERE	Upgrade the Wichita substation with the necessary breakers and terminal equipment to accommodate two new 345 kV circuits from the new Thistle 345 kV substation	10/1/2014	1/1/2015

**Reliability Projects - The requested service is contingent upon completion of the following upgrades. Cost is not assignable to the transmission customer.**

Transmission Owner	Upgrade	Solution	Earliest Date Upgrade Required (DUN)	Estimated Date of Upgrade Completion (EOC)
AEPW	Elk City 345/230 kV	Expand Elk City substation (or build new station). Install a 345/230 kV 675 MVA transformer at Elk City.	10/1/2014	3/1/2018
AEPW	Elk City to Gracemont 345KV AEPW	Build new 46.5 mile 345 kV line from Elk City to Gracemont (AEP portion).	10/1/2014	3/1/2018
NPPD	Cherry Co - Gentleman 345 kV Ckt1	Build new 345 kV Transmission Line from GGS 345 kV Substation to a new Cherry County 345 kV Substation (76 miles).	10/1/2014	1/1/2018
NPPD	Cherry Co - Holt Co 345 kV Ckt1	Build new 345 kV Transmission Line from new Cherry County 345 kV Substation to new 345 kV Holt County Substation. (Estimated 146 miles).	10/1/2014	1/1/2018
NPPD	Cherry Co 345 kV Terminal Upgrades	Build new Cherry County 345 kV Substation.	10/1/2014	1/1/2018
OKGE	Elk City to Gracemont 345KV OKGE	Build new 46.5 mile 345 kV line from Elk City to Gracemont (OGE portion).	10/1/2014	3/1/2018
SPS	Hitchland 230/115/13.2 kV Transformer Ckt 2	Build a second 230/115/13.2 kV transformer at Hitchland.	6/1/2015	6/1/2017
SPS	Optima 345/115 kV	New 345/115kV substation between Texas County to Cole 115kV line and Finney to Hitchland 345 kV line, Rebuild Texas County to Cole 115kV line	6/1/2015	6/1/2019
WERE	Viola - Clearwater 138KV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Clearwater 138 kV substation.	10/1/2014	6/1/2018
WERE	Viola - Gill 138KV Ckt1	Build new 138kV line between new Viola substation 345/138 kV transformer and existing Gill 138 kV substation.	10/1/2014	6/1/2018
WERE	Viola 345/138KV Transformer Ckt 1	Install new 345/138 kV transformer at Viola substation	10/1/2014	6/1/2018
WFEC	ELK CITY - RED HILLS WIND 138KV CKT 1	Upgrade Elk City to RHWIND4 TO 1113	10/1/2014	6/1/2016