

# System Impact Study SPP-2003-275-1 For Transmission Service Requested By Kansas Municipal Energy Agency

From GRDA to WR

# For a Reserved Amount Of 24 MW From 5/1/2009 To 5/1/2010

SPP Engineering, Tariff Studies

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ATTACHMENT: SPP-2003-275-1 Tables

## **1. Executive Summary**

Kansas Municipal Energy Agency has requested a system impact study to renew long-term Firm Point-to-Point transmission service from GRDA to WR for 24 MW. The period of the service requested is from 5/1/2009 to 5/1/2010. The OASIS reservation numbers are 610382 and 610383.

The principal objective of this study is to identify system problems and potential system modifications necessary to facilitate the renewal of the 24 MW request while maintaining system reliability. The renewal of long-term service is being evaluated due to the FERC settlement agreement, which ended service 5/1/2009 in order avoid additional upgrade costs. Analysis was conducted for the requested service period above and for the remaining planning horizon from 5/1/2010 to 4/1/2011. The additional evaluation of the planning horizon was conducted to determine any future constraints that may limit the future renewal of service.

<u>Tables 1</u> and <u>2</u> lists the SPP facility overloads and voltage violations, respectively, caused or impacted by the requested service and include solutions with estimated engineering and construction costs to alleviate the limiting facilities. <u>Tables 3</u> and <u>4</u> lists Non-SPP facility overloads and voltage violations, respectively, caused or impacted by the requested service.

The study results of the GRDA to WR request show that limiting constraints exist. Due to the limiting constraints identified, the Transmission Service Request cannot be granted. Any solutions, upgrades, and costs provided in the System Impact Study are planning estimates only. The final ATC and upgrades required may vary from these results due to the status of one higher priority request. The higher priority request is a SPS to MPS 200 MW Redirect. The redirect request was not modeled in the study cases. The request has a minimal effect on the determined ATC.

SPP will also review the possibility of curtailment of previously confirmed service and/or the redispatch of units as an option for relieving the additional impacts on the SPP facilities caused by the GRDA to WR request. These options will be evaluated as part of the Facility Study. Execution of a Facility Study Agreement is now required to maintain queue position. The final ATC, upgrade solutions, cost assignments, complete evaluation of renewal rights, and available redispatch and curtailment options will be determined upon the completion of the facility study.

## 2. Introduction

Kansas Municipal Energy Agency has requested a system impact study for Point-to-Point Service from GRDA to WR for 24 MW. The principal objective of this study is to identify the restraints on the SPP Regional Tariff System that may limit the requested service and determine the least cost solutions required to alleviate the limiting facilities.

This study includes steady-state contingency analyses (PSS/E function ACCC) and Available Transfer Capability (ATC) analyses. The steady-state analyses consider the impact of the 24 MW request on transmission line loading and transmission bus voltages for system intact and system outages of single and selected multiple transmission lines and transformers on the SPP systems and first tier Non - SPP systems.

## 3. Study Methodology

## A. Description

The system impact analysis was conducted to determine the steady-state impact of the 24 MW transfer on the SPP and first tier Non - SPP control area systems. The steady-state analysis was done to ensure current SPP Criteria and NERC Planning Standards requirements are fulfilled. The Southwest Power Pool conforms to the NERC Planning Standards, which provide the strictest requirements, related to voltage violations and thermal overloads during normal conditions and during a contingency. It requires that all facilities 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 MDWG models, respectively. The lower bound of the normal voltage range monitored is 95%. The lower bound of the emergency voltage range monitored is 90%.

The contingency set includes all SPP control area branches and ties 69kV and above, first tier Non - SPP control area branches and ties 115 kV and above, and any defined contingencies for these control areas. The monitor elements include all SPP control area branches, ties, and buses 69 kV and above, and all first tier Non – SPP control area branches and ties 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 first tier Non – SPP control area facilities, a 3 % TDF cutoff was applied to AECI, AMRN, and ENTR and a 2 % TDF cutoff was applied to MEC, NPPD, and OPPD. For voltage monitoring, a 0.02 per unit change in voltage must occur due to the transfer to be considered a valid limit to the transfer.

## **B. Model Updates**

SPP used four seasonal models to study the GRDA to WR 24 MW transfer for the requested service period. The SPP 2004 Series Cases 2007 Summer Peak (07SP), 2007/08 Winter Peak (07WP), 2010 Summer Peak (10SP), and 2010/11 Winter Peak (10WP) were used to study the impact of the 24 MW transfer on the system during the requested service period from 5/1/2009 to 5/1/2010 and remaining planning horizon from 5/1/2010 to 4/1/2011. The Spring Peak models apply to April and May, the Summer Peak models apply to June through September, the Fall Peak models apply to October and November, and the Winter Peak models apply to December through March.

The chosen base case models were modified to reflect the most current modeling information. The cases were modified to reflect firm transfers during the requested service period that were not already included in the SPP 2004 Series Cases.

## C. 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 thermal overloads and voltage violations caused or impacted by the transfer. The PSS/E options chosen to conduct the analysis can be found in Appendix A.

## **D.** Upgrade Analysis

This system impact study does not include analysis with the assigned upgrades modeled. To determine the final cost and possible start date of the requested service, additional analysis will

SPP IMPACT STUDY (SPP-2003-275-1) June 9, 2004 Page 5 of 9 be performed to determine the impact of modeling the assigned upgrade for the GRDA to WR request.

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## 4. Study Results

## A. Study Analysis Results

<u>Tables 1, 2, 3</u>, and <u>4</u> contain the steady-state analysis results of the System Impact Study. The Tables are in the attached workbook *SPP-2003-275-1 Tables*. The tables identify the seasonal case in which the event occurred, the facility control area location, applicable ratings of the overloaded facility, the loading percentage or voltage with and without the studied transfer, and the estimated ATC value using interpolation if calculated. Comments are provided in the tables to document any SPP or Non - SPP identification or assignment of the event, existing mitigations plans or criteria to disregard the event as a limiting constraint, upgrades and costs to mitigate a limiting constraint, or any specific study procedures associated with modeling an event.

<u>Table 1</u> lists the SPP facility overloads caused or impacted by the 24 MW transfer. Solutions with estimated engineering and construction costs are provided in the tables.

<u>Table 2</u> lists the SPP facility voltage violations caused or impacted by the 24 MW transfer. Solutions with estimated engineering and construction costs are provided in the tables.

<u>Table 3</u> lists overloads on Non - SPP Regional Tariff participants' transmission systems caused or impacted by the 24 MW transfer.

<u>Table 4</u> lists voltage violations on Non - SPP Regional Tariff participants' transmission system caused or impacted by the 24 MW transfer.

<u>Table 1a</u> documents the modeling representation of the events identified in <u>Table 1</u> to include bus numbers and bus names.

## 5. Conclusion

The study results of the GRDA to WR request show that limiting constraints exist. Due to the limiting constraints identified, the Transmission Service Request cannot be granted. Any solutions, upgrades, and costs provided in the System Impact Study are planning estimates only. The final ATC and upgrades required may vary from these results due to the status of one higher priority request. The higher priority request is a SPS to MPS 200 MW Redirect. The redirect request was not modeled in the study cases. The request has a minimal effect on the determined ATC.

SPP will also review the possibility of curtailment of previously confirmed service and/or the redispatch of units as an option for relieving the additional impacts on the SPP facilities caused by the GRDA to WR request. These options will be evaluated as part of the Facility Study. Execution of a Facility Study Agreement is now required to maintain queue position. The final ATC, upgrade solutions, cost assignments, complete evaluation of renewal rights, and available redispatch and curtailment options will be determined upon the completion of the facility study.

## Appendix A

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

BASE CASES:

Solutions - Fixed slope decoupled Newton-Raphson solution (FDNS)

- 1. Tap adjustment Stepping
- 2. Area interchange control Tie lines only
- 3. Var limits Apply immediately
- 4. Solution options  $\underline{X}$  Phase shift adjustment

\_ Flat start

Lock DC taps

## \_Lock switched shunts

ACCC CASES:

Solutions – AC contingency checking (ACCC)

- 1. MW mismatch tolerance -0.5
- 2. Contingency case rating Rate B
- 3. Percent of rating -100
- 4. Output code Summary
- 5. Min flow change in overload report -1 mw
- 6. Excld cases w/ no overloads form report YES
- 7. Exclude interfaces from report NO
- 8. Perform voltage limit check YES
- 9. Elements in available capacity table 60000
- 10. Cutoff threshold for available capacity table 99999.0
- 11. Min. contng. case Vltg chng for report -0.02
- 12. Sorted output None

Newton Solution:

- 1. Tap adjustment Stepping
- 2. Area interchange control Tie lines only
- 3. Var limits Apply automatically
- 4. Solution options  $\underline{X}$  Phase shift adjustment
  - \_Flat start
    - \_Lock DC taps
    - \_Lock switched shunts

Study Case	From Area	To Area	Monitored Branch Overload	Rate <mva></mva>	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
07SP	WERE	WERE	AUBURN 230/115/13.8KV TRANSFORMER	308	100.2	100.6	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
07SP	WERE	WERE	AUBURN 230/115/13.8KV TRANSFORMER	308	100.0	100.4	HOYT 345/115/14.4KV TRANSFORMER	0	May be relieved due to Westar Operating Procedure 623 - Outage of the Hoyt 345-115kV Transformer	
07SP	WERE	WERE	AUBURN ROAD - KEENE 115KV	68	101 7	103.4	EAST MANHATTAN 230/115/18 0KV TRANSFORMER	0	May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer	
	WERE	WERE				100.1			May be relieved due to Westar Operating Procedure 900 -	
07SP	WERE	WERE	AUBURN ROAD - KEENE 115KV	68	104.5	106.0	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	May be relieved due to Westar Operating Procedure 1204 -	
07SP	WERE	WERE	CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV	68	100.9	102.1	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	0	Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 kV Line	
07WP	WERE	WERE	NORTH AMERICAN PHILIPS - NORTH AMERICAN PHILIPS JUNCTION (SOUTH) 115KV	160	108.5	110.1	EAST MCPHERSON - SUMMIT 230KV	0	Rebuild 0.88 miles and reconductor with 1192.5 ACSR. Date Upgrade Needed for Renewal of Service is 12/1/09	\$417,200
07WP	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOLITH) - WEST MCPHERSON 115K/	68	117 1	118.8	EAST MCPHERSON - SUMMIT 230KV	0	Tear down double circuit, build single circuit with 1192.5 ACSR.	\$7 800 000
07WP	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCHARSON 115KV CKT 2	92	102.2	103.7	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Specified For Facility	\$1,000,000
									May be relieved due to Westar Operating Procedure 1204 -	
07WP	WERE	WERE	CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV	68	99.1	100.8	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	13	Outage of the Circle to Hutchinson Energy Center (HEC) GT 115	
						100.0			May be relieved due to Westar Operating Procedure 900 -	
10SP	WERE	WERE	AUBURN 230/115/13.8KV TRANSFORMER	308	102.0	102.4	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	Outage of the JEC to East Manhattan 230kV Line	
10SP	WERE	WERE	AUBURN 230/115/13.8KV TRANSFORMER	308	100.6	100.9	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	Outage of the JEC to East Manhattan 230kV Line	
10SP	WERE	WERE	AUBURN ROAD - KEENE 115KV	68	118.0	119.6	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
10SP	WEDE	WEDE		68	115.2	116.0	EAST MANHATTAN 230/115/18 0KV/ TRANSCORMED	0	May be relieved due to Westar Operating Procedure 633 -	
1031	VVLINE	VVLINE	AUBORNI ROAD - REENE HORV	00	113.2	110.5		0	May be relieved due to Westar Operating Procedure 900 -	
10SP	WERE	WERE	AUBURN ROAD - KEENE 115KV CKT 2	92	103.2	104.6	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	Outage of the JEC to East Manhattan 230kV Line	
10SP	WERE	WERE	AUBURN ROAD - KEENE 115KV CKT 2	92	100.8	102.3	EAST MANHATTAN 230/115/18.0KV TRANSFORMER	0	Outage of the East Manhattan 230-115kV Transformer	
10SP	AEPW	AEPW	FLINT CREEK - GENTRY REC 161KV	353	100.0	100.3	FLINT CREEK - TONTITOWN 161 KV	0	Limits Renewal Rights	
10SP	WERE	WERE	HUTCHINSON ENERGY CENTER GAS TURBINE 2 115/13.8KV TRANSFORMER	65	115.9	119.0	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	0	May be relieved due to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 kV Line	
10SP	WERE	WERE	HUTCHINSON ENERGY CENTER GAS TURBINE 2 69/13.8KV TRANSFORMER	65	114.5	117.3	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	0	May be relieved due to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 kV Line	
10SP	WERE	WERE	KEENE - SOUTH ALMA 115KV	68	108.0	109.6	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
10SP	WERE	WERE	KEENE - SOUTH ALMA 115KV	68	105.1	106.8	EAST MANHATTAN 230/115/18.0KV TRANSFORMER	0	May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer	
10SP	WERE	WERE		43	99.7	102.2	WEAVER 138/69/13 2KV TRANSFORMER	3	May be relieved due to Westar Operating Procedure 634 - Outage of the Weaver 138-69kV Transformer	
1001	WEIKE	WERE		40	00.1	102.2	WERVER 10000/10.21W HUNDI ORWER		May be relieved due to Westar Operating Procedure 633 -	
10WP	WERE	WERE	AUBURN ROAD - KEENE 115KV	68	108.3	109.8	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	May be relieved due to Westar Operating Procedure 1204 -	
									Outage of the Circle to Hutchinson Energy Center (HEC) GT 115	
10WP	WERE	WERE	CIRCLE - SANDHILL ARK VALLEY CO-OP D.P. JUNCTION 115KV	68	100.2	101.5	CIRCLE - HUTCHINSON ENERGY CENTER 115KV	0	kV Line May be relieved due to Westar Operating Procedure 633 -	
10WP	WERE	WERE	KEENE - SOUTH ALMA 115KV	68	102.1	103.6	EAST MANHATTAN - JEFFREY ENERGY CENTER 230KV	0	Outage of the East Manhattan 230-115kV Transformer	
10WP	WERE	WERE	NORTH AMERICAN PHILIPS - NORTH AMERICAN PHILIPS JUNCTION (SOUTH) 115KV	160	121.9	123.6	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Specified For Facility	
10WP	WERE	WERE	NORTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV	68	131.6	133.4	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Specified For Facility	
10WP	WERE	WERE	NUKTH AMERICAN PHILIPS JUNCTION (SOUTH) - WEST MCPHERSON 115KV CKT 2	92	114.8	116.4	EAST MCPHERSON - SUMMIT 230KV	0	See Previous Upgrade Specified For Facility	
TOWP	VVERE	WERE	SANUTILL JUI - UIKULE HORV	141	103.4	105.5	UKULE 230/113/13.0NV TRANSFURIMER	0	May be relieved due to Westar Operating Procedure 617 -	
10WP	WERE	WERE	WEST JUNCTION CITY - WEST JUNCTION CITY JUNCTION (EAST) 115KV	141	111.1	111.9	SUMMIT 345/230/14.4KV TRANSFORMER	0	Outage of the Summit 345/230kV Transformer	
10\//P	WERE	WERE		141	111.5	112.2	IEFEREY ENERGY CENTER - SI IMMIT 345KV	0	May be relieved due to Westar Operating Procedure 402 - Outage of the leffrey Energy Center to Summit 345 kVL inc.	
10WP	WERE	WERE	WEST MCPHERSON - SANDHILL JCT 115KV	68	98.5	100.5	CIRCLE 230/115/13.8KV TRANSFORMER	19	Solution Undetermined. May Only Limit Renewal Rights	
									Total Estimated Cost	\$8,217,200

Study			BC Voltage	TC Voltage		ATC		Estimated
Case	Area	Monitored Bus with Violation	(PU)	(PU)	Outaged Branch Causing Voltage Violation	(MW)	Solution	Cost
07SP		NONE IDENTIFIED				24		
07WP		NONE IDENTIFIED				24		
10SP		NONE IDENTIFIED				24		
10WP		NONE IDENTIFIED				24		
							Total Estimated Cost	s -

#### SPP-2003-275-1 Table 3 - Non-SPP Facility Overloads Caused or Impacted by 25 MW Transfer

Study	From	То		Rate	BC %	TC %		
Case	Area	Area	Monitored Branch Overload	<mva></mva>	Loading	Loading	Outaged Branch Causing Overload	Comments
07SP			NONE IDENTIFIED					
07WP	AECI	AECI	96123 5WPLAIN 161 WND 2 WESTPL1 1	56	115.4	116.8	96123 5WPLAIN 161 to 97123 2WSTPL3 69.0 to 97120 1WESTPL2 CKT 2	
10SP			NONE IDENTIFIED					
10WP			NONE IDENTIFIED					

#### SPP-2003-275-1 Table 4 - Non-SPP Voltage Violations Caused or Impacted by 25 MW Transfer

Study			BC Voltage	TC Voltage		
Case	Area	Monitored Bus with Violation	(PU)	(PU)	Outaged Branch Causing Voltage Violation	Comments
07SP		NONE IDENTIFIED				
07WP		NONE IDENTIFIED				
10SP		NONE IDENTIFIED				
10WP		NONE IDENTIFIED				

OTD WERE SEES LADEL AND LADEL	Study Case	From Area	To Area	Monitored Branch Overload	Rate <mva></mva>	BC % Loading	TC % Loading	Outaged Branch Causing Overload	ATC (MW)	Solution	Estimated Cost
USP WRE Desc Dots 1004 State HOYT 7 346 to ST165 HOYT	07SP	WERE	WERE	56851 AUBURN 6 230 WND 1 AUBRN77X 1	308	100.2	100.6	56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
OF WERE ST101 AUBURN 3115 to 57/17 KEENE 3115 CKT 68 1017 103. 9880 EMANHATTS 210 by 7328 EMANHATTS 210 by 5738 EMANHATTS 115 by 5688 EMANHATTS 210 by 7738 EMANHATS 210 by 7738 EMANHATS 210 by 7738 EMANHATTS 210 by 7738 EMANHATS 210 by 773 EMANHATS 220 by 6573 EMANHATS 220 by 6573 EMANHATS 220 by 710 by 778 EMANHATS 210 by 77	07SP	WERE	WERE	56851 AUBURN 6 230 WND 1 AUBRN77X 1	308	100.0	100.4	56765 HOYT 7 345 to 57163 HOYT 3 115 to 56804 HOYT 114.4 CKT 1	0	May be relieved due to Westar Operating Procedure 623 - Outage of the Hovt 345-115kV Transformer	
1/2 <td>07SP</td> <td>WERE</td> <td>WERE</td> <td>57151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1</td> <td>68</td> <td>101.7</td> <td>103.4</td> <td>56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118 0 CKT 1</td> <td>0</td> <td>May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer</td> <td></td>	07SP	WERE	WERE	57151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1	68	101.7	103.4	56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118 0 CKT 1	0	May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer	
Olds Here Units Disc Dods <t< td=""><td>0750</td><td>WEDE</td><td>WEDE</td><td>57151 AUDURN 2 115 to 57167 KEENE 2 115 CKT 1</td><td>69</td><td>104.5</td><td>106.0</td><td></td><td>0</td><td>May be relieved due to Westar Operating Procedure 900 -</td><td></td></t<>	0750	WEDE	WEDE	57151 AUDURN 2 115 to 57167 KEENE 2 115 CKT 1	69	104.5	106.0		0	May be relieved due to Westar Operating Procedure 900 -	
0759 WERE 57412 CARLE 0100 102.1 57413 CIRCLE 3 115 to 57419 HEC 3115 CNT 1 0 Dubbe Fragment Dubbe Fragment<	0701	WEIKE	WEILE	SHSTROBORN'S HSTOSHOF REERE SHSTORT	00	104.5	100.0		0	May be relieved due to Westar Operating Procedure 1204 -	
OTW WERE WERE ST372 PHILIPS3 115 to ST374 SPHILPJ3 115 CKT 1 160 102.5 110.1 G6872 EMCPHERE 320 to 56873 SUMMIT 6 200 CKT 1 0 Network 1200 Set	07SP	WERE	WERE	57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1	68	100.9	102.1	57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	0	Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 kV Line	
OWN WERE WERE STATA SPHILPL3 115 to 5743 BWICPHERS 115 CKT 1 68 117.1 118.8 S6857 EMCPHERS 230 to 68673 SUMMIT 6 20 CKT 1 0 Date Upgrade Meed for Rewards 127 00 497 40 97.0   OWN WERE WERE S742 SPHILPL3 115 to 5743 BWICPHERS 115 CKT 2 29 102 103.7 S6872 EMCPHERS 230 to 68673 SUMMIT 6 20 CKT 1 0 Date Upgrade Meed for Rewards 127 00 497 40   OWN WERE WERE S7412 ARVALJS 115 to 5743 BWICPHERS 115 CKT 1 68 9.1 100.8 S7413 CIRCLE 3 115 to 57419 HEC 3 115 to 57410 HEC 3	07WP	WERE	WERE	57372 PHILIPS3 115 to 57374 SPHILPJ3 115 CKT 1	160	108.5	110.1	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	Rebuild 0.88 miles and reconductor with 1192.5 ACSR. Date Upgrade Needed for Renewal of Service is 12/1/09	\$417,200
OWNER WERE VERE <t< td=""><td>07WP</td><td>WERE</td><td>WERE</td><td>57374 SPHILP.I3 115 to 57438 WMCPHER3 115 CKT 1</td><td>68</td><td>117 1</td><td>118.8</td><td>56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1</td><td>0</td><td>Tear down double circuit, build single circuit with 1192.5 ACSR. Date Upgrade Needed for Renewal of Service is 12/1/09</td><td>\$7 800 000</td></t<>	07WP	WERE	WERE	57374 SPHILP.I3 115 to 57438 WMCPHER3 115 CKT 1	68	117 1	118.8	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	Tear down double circuit, build single circuit with 1192.5 ACSR. Date Upgrade Needed for Renewal of Service is 12/1/09	\$7 800 000
OTWP WERE WERE S7412 ARKVALU3 115 to 57413 CIRCLE 3 115 CKT 1 68 99.1 100.8 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 110   105P WERE WERE S6851 AUBURN 3 20 WN 1 AUBRNYTX 1 308 102.0 102.4 55862 FLANHATTS 20 CKT 1 0 Outgo of the JCC 1 Set Manhattan 2000 VL Ine   105P WERE WERE S7151 AUBURN 3 115 WN 2 AUBRNYTX 1 308 100.6 100.9 56862 FLANHATTS 20 CKT 1 0 Outgo of the JCC 1 Set Manhattan 2000 VL Ine   105P WERE WERE S7151 AUBURN 3 115 WT0 2 AUBRNYTX 1 308 100.6 56862 FLANHATTS 20 CKT 1 0 Outgo of the JCC 1 Set Manhattan 2000 VL Ine   105P WERE WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 115.2 116.9 56861 FLANHATS 20 CKT 1 0 Outgo of the JCC 1 Set Manhattan 2000 VL Ine   105P WERE WERE WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 115.2 116.9 56861 FLANHATS 20 CKT 1 0 Outgo of the JCC 1 Set Manhattan 2000 VL Ine   105P WERE WERE S7167 KEE	07WP	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 2	92	102.2	103.7	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	See Previous Upgrade Specified For Facility	<i></i>
07WP WERE VERE 57412 ARKVALJ3 115 to 57413 CIRCLE 3115 CKT1 68 99.1 100.8 57413 CIRCLE 3115 to 57419 HEC 3115 to 57419 HEC May be releved due to Vestar Operating Procedure 800- Outage of the JEC to East Manhattan 230V Line   105P WERE S7151 AUBURN 8 230 WD1 A JUBRN77X 308 100.0 56852 JEC 6 220 to 56861 EMANHATE 230 CKT 1 0 Outage of the JEC to East Manhattan 230V Line   105P WERE S7151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1 68 118.0 119.6 56861 EMANHATE 230 CKT 1 0 Outage of the JEC to East Manhattan 230V Line   105P WERE S7167 KEENE 3 115 to 57167 KEENE 3 115 CKT 1 68 115.2 116.9 56881 EMANHATE 230 CKT 1 0 Outage of the JEC to East Manhattan 230V Line   105P WERE S7167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 2 92 100.2 146.9 56881 EMANHATE 230 CKT 1 0 Outage of the JEC to East Manhattan 230V Line   105P WERE WERE S7167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 2 92 100.2 146.9 56881 EMANHATE 230 CKT 1 0 Outage of the JEC to East Manhattan 230V Line   105P WER										May be relieved due to Westar Operating Procedure 1204 -	
Insp WERE WERE Ge851 AUBURN 6 230 WND 1 AUBRN77X 1 308 102.0 102.4 Ge862 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outgo of the LC to East Manhatan 230V Line   10SP WERE 57151 AUBURN 3 115 WND 2 AUBRN77X 1 308 100.6 100.9 56862 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outgo of the JC to East Manhatan 230V Line   10SP WERE 57151 AUBURN 3 115 Ib 57167 KEENE 3 115 LO ST167 KEENE 3 115 to S7161 AUBURN 3 115 CKT 1 68 118.0 119.6 56682 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outgo of the JC to East Manhatan 230V Line   10SP WERE 57167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 1 68 115.2 110.9 56861 EMANHAT6 230 CKT 1 0 Outgo of the JC to East Manhatan 230V Line   10SP WERE S7167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 1 62 10.6 66852 JEC 6230 to 56861 EMANHAT6 230 CKT 1 0 Outgo of the JC to East Manhatan 230V Line   10SP WERE S7167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 1 62 10.8 10.23 56861 EMANHAT6 230 CKT 1 0 Outgo of the JC to East M	07WP	WERE	WERE	57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1	68	99.1	100.8	57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	13	kV Line	
Insp WERE S7151 AUBURN 3 115 WND 2 AUBRN77X 308 100.6 100.9 568852 JEC 6 230 to 56861 EMANHAT6 230 CKT 0 Outage of the JEC to East Manhattan 2304 Une   10SP WERE WERE 57151 AUBURN 3 115 WND 2 AUBRN77X 308 100.6 100.9 568852 JEC 6 230 to 56861 EMANHAT6 230 CKT 0 Outage of the JEC to East Manhattan 2304 Une   10SP WERE WERE 57167 KEENE 3 115 to 57157 AUBURN 3 115 CKT 1 68 115.2 116.9 56881 EMANHAT6 230 to 5726 EMANHAT3 115 to 56888 EMANHAT18 0 CKT 1 Outage of the East Manhattan 2304 Were   10SP WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 103.2 104.6 56882 JEC 6 230 to 56861 EMANHAT3 115 to 56888 EMANHAT18 0 CKT 1 Outage of the East Manhattan 2304 Were   10SP WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 103.2 104.6 56885 JEC 6 230 to 56861 EMANHAT18 0 CKT 1 0 Outage of the East Manhattan 2304 Were 0 Outage of the East Manhattan	10SP	WERE	WERE	56851 AUBURN 6 230 WND 1 AUBRN77X 1	308	102.0	102.4	56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
USD WERE 5/151 AUBURN 3 115 WND 2 AUBURN/X 1 308 100.9 6885 JEC 62.30 to 56801 EMANHA16 230 CK11 0 Cudage of the LC to Last Amanhatan 220X Line   10SP WERE WERE 57151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1 68 118.0 119.6 56882 JEC 62.30 to 56801 EMANHA16 230 CKT 1 0 Cudage of the LC to Last Amanhatan 220X Line   10SP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 116.2 116.9 56881 EMANHA16 230 CKT 1 0 Outage of the LC to Last Amanhatan 220X Line   10SP WERE WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 103.2 104.6 56882 JEC 6.230 to 58881 EMANHAT 18.0 CKT 1 0 May be releved due to Westar Operating Procedure 53 -   10SP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 100.3 100.3 53139 FLINTCRS 161 to 53139 FLINTCRS 161 CKT 1 0 May be releved due to Westar Operating Procedure 53 -   10SP WERE WERE 57167 KEENE 3 115 to 5714 JBLENR 3 115 CKT 1 0 0 Outage of the Circle 14MuchinasenereveratiReprating Procedure 1734 -										May be relieved due to Westar Operating Procedure 900 -	
105P WERE S7151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1 68 118.0 119.6 56852 JEC 6 230 to 55861 EMANHATE 230 CKT 1 0 Outage of the East Manhattin 230 HKV Transformer   105P WERE S7167 KEENE 3 115 to 57161 AUBURN 3 115 CKT 1 68 116.2	10SP	WERE	WERE	57151 AUBURN 3 115 WND 2 AUBRN77X 1	308	100.6	100.9	56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1	0	Outage of the JEC to East Manhattan 230kV Line May be relieved due to Westar Operating Procedure 900 -	
IOSP WERE 67167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 115.2 116.9 56861 EMANHATG 230 to 5726E EMANHAT3 115 to 56868 EMANHAT118.0 CKT 1 0 Outage of the East Manhatance 230 CKT 1 0 <	10SP	WERE	WERE	57151 AUBURN 3 115 to 57167 KEENE 3 115 CKT 1	68	118.0	119.6	56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1	0	Outage of the JEC to East Manhattan 230kV Line	
USP WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 103.2 104.6 56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outgoed rite JEC to East Manhattan 230 VL line   105P WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 100.8 102.3 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outgoed rite JEC to East Manhattan 230 VL line   105P MERE 57167 KEENE 3 115 to 57167 KEENE 3 115 to 57161 KET 1 353 100.0 100.3 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outgoed rite JEC to East Manhattan 230 VL line   10SP KERE 57167 KEENE 3 115 to 57161 KET 1 553139 FLINTCR5 161 to 53139 FLINTCR5 161 CKT 1 0 May be releved due to Westar Operating Procedure 1204 -   10SP WERE 56696 HEC GT 2 13.8 to 57514 HEC GT 2 69 CKT 1 65 114.5 117.3 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be releved due to Westar Operating Procedure 1204 -   10SP WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 65 114.5 117.3 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 0 Usead of the JEC to East Manhattan 230NV Line	10SP	WERE	WERE	57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1	68	115.2	116.9	56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1	0	May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer	
WERE WERE ST167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2 92 100.8 102.3 56861 EMANHATE 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - Outage of the Circle to Hustantata 230/115kV Transformer   10SP AEPW 53187 GENTRYR5 161 to 53139 FLINTCR5 161 CKT 1 353 100.0 100.3 53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT 1 0 Uutage of the Circle to Hustantata 230/115kV Transformer   10SP WERE 56696 HEC GT2 13.8 to 57421 HEC GT 3 115 CKT 1 65 115.9 119.0 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be relieved due to Westar Operating Procedure 1204 - Outage of the Circle to Hustanson Energy Center (HEC) GT 115   10SP WERE 56696 HEC GT2 13.8 to 57514 HEC GT 2.69 CKT 1 65 114.5 117.3 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be relieved due to Westar Operating Procedure 1204 - Outage of the Circle to Hustanson Energy Center (HEC) GT 115   10SP WERE 57167 KEENE 3 115 to 5739 S ALMA 3 115 CKT 1 68 108.0 109.6 56862 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outage of the LiP co E ast Manhatan 230/V Line   10SP WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1	10SP	WERE	WERE	57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 2	92	103.2	104.6	56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1	0	May be relieved due to Westar Operating Procedure 900 - Outage of the JEC to East Manhattan 230kV Line	
Losp WERE WERE Site is to said a bit is bit bit is bit bit bit bit bit bit bit bit is bit bit bit bit bit bit bit bit bit b	1000		WEDE		02	100.8	102.2	56964 EMANILLATE 220 to 57226 EMANILLAT2 115 to 56900 EMANILLAT110 0 C/T 1	0	May be relieved due to Westar Operating Procedure 633 -	
May be releved ue to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) CI 115   10SP WERE WERE S6696 HEC GT2 13.8 to 57421 HEC GT 3 115 CKT 1 65 115.9 119.0 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be releved due to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) CI 115   10SP WERE WERE 56696 HEC GT2 13.8 to 57514 HEC GT 2 69 CKT 1 65 111.5 117.3 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be releved due to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) CI 115   10SP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 108.0 109.6 56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outage of the Circle to Hutchinson Energy Center (HEC) CI 115   10SP WERE S7167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 106.8 56861 EMANHAT6 230 to 57326 EMANHAT118.0 CKT 1 0 Outage of the East Manhatan 230-115KV Tansformer   10SP WERE S7605 WHITE J269.0 to 57588 CHASE 269.0 CKT 1 43 99.7 102.2 56991 WEAVER 4 138 to 57604 WEAVER 269.0 to 57038 WEAVER 113.2 CKT 1 0 Outage of the East Manhatan 230-115KV Tansf	10SP	AEPW	AEPW	53187 GENTRYR5 161 to 53139 FLINTCR5 161 CKT 1	353	100.8	102.3	53139 FLINTCR5 161 to 53170 TONTITN5 161 CKT1	0	Limits Renewal Rights	
USP WERE WERE S6696 HEC GT2 13.8 to 57421 HEC GT 3 115 CKT 1 65 115.9 119.0 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 Cutage of the Circle to Hutchinson Energy Center (HEC) GT 115 (VLine   10SP WERE WERE 56696 HEC GT2 13.8 to 57514 HEC GT 2 69 CKT 1 65 114.5 117.3 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be relieved due to Westar Operating Procedure 600 - VLine   10SP WERE S7167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 566852 JEC 6 230 to 56661 EMANHAT6 230 CKT 1 0 Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 (VLine   10SP WERE S7167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 566851 EMANHAT6 230 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - 0 Utage of the East Manhattan 230-H15KV Transformer   10SP WERE WERE 57167 KEENE 3 115 to 5718 ALBURN 3 115 CKT 1 68 106.1 106.8 56861 EMANHAT6 230 to 57083 WEAVER 113.2 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - 0 Utage of the East Manhattan 230-H15KV Transformer   10SP WERE S7167 KEENE 3 115 to 5718 JABURN 3 115 CKT 1 68 108.3 109.8 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>May be relieved due to Westar Operating Procedure 1204 -</td> <td></td>										May be relieved due to Westar Operating Procedure 1204 -	
May be relieved due to Westar Operating Procedure 1204 - Outage of the Cricle to Hutchinson Energy Center (HEC) GT 115 to 57339 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 1204 - Outage of the Cricle to Hutchinson Energy Center (HEC) GT 115 to 57339 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 900 - Outage of the Sci to 57329 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 900 - Outage of the Sci to 57339 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 900 - Outage of the Sci to 57339 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 933 - Outage of the Sci to 57339 S ALMA 3 115 CKT 1 May be relieved due to Westar Operating Procedure 634 - Outage of the Sci to 5738 WEAVER 113.2 CKT 1 Outage of the Sci to 5738 VEAVER 113.2 CKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57151 AUBURN 3 115 CKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57151 AUBURN 3 115 CKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57413 CIRCLE 3 115 to 57419 HEC 3 115 cKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57413 CIRCLE 3 115 to 57413 CIRCLE 3 115 to 57413 CIRCLE 3 115 to 57419 HEC 3 115 to 57419 HEC 3 115 cKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57413 CIRCLE 3 115 cKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57413 CIRCLE 3 115 cKT 1 May be relieved due to Westar Operating Procedure 633 - Outage of the Sci to 57413 CIRCLE 3 115 cKT 1 May be relieved due to Westar Operating	10SP	WERE	WERE	56696 HEC GT2 13.8 to 57421 HEC GT 3 115 CKT 1	65	115.9	119.0	57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	0	Outage of the Circle to Hutchinson Energy Center (HEC) GT 115 kV Line	
10SP WERE WERE 56696 HE C GT 2 13.8 to 57514 HE C GT 2 69 CKT 1 65 114.5 117.3 57413 CIRCLE 3 115 to 57419 HE C 3 115 CKT 1 0 kV Line   10SP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 56865 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outage of the Jast Manhatan 230-115kV Transformer   10SP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outage of the Jast Manhatan 230-115kV Transformer   10SP WERE WERE 57167 KEENE 3 115 to 57139 S ALMA 3 115 CKT 1 68 105.1 106.8 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outage of the East Manhatan 230-115kV Transformer   10SP WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 108.3 109.8 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outage of the East Manhatan 230-115kV Transformer   10WP WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 108.3 109.8 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1										May be relieved due to Westar Operating Procedure 1204 - Outage of the Circle to Hutchinson Energy Center (HEC) GT 115	
Insp Were Were S7167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 56852 JEC 6 200 to 56861 EMANHAT6 230 CKT 1 0 Outage of the JEC to East Manhattan 230-VLine   10SP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 109.6 56852 JEC 6 230 to 56861 EMANHAT6 230 CKT 1 0 Outage of the JEC to East Manhattan 230-VLine   10SP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 105.1 106.8 56861 EMANHAT6 230 to 57366 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Outage of the Westar Operating Procedure 633 -   10SP WERE WERE 57605 WHITE J269.0 to 57588 CHASE 269.0 CKT 1 43 99.7 102.2 56991 WEAVER 4 138 to 57604 WEAVER 269.0 to 57083 WEAVER 113.2 CKT 1 0 Outage of the Weaver 138-608V Transformer   10WP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 109.2 101.5 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 Outage of the Westar Operating Procedure 633 -   10WP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 100.2 101.5 57413 CI	10SP	WERE	WERE	56696 HEC GT2 13.8 to 57514 HEC GT 2 69 CKT 1	65	114.5	117.3	57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1	0	kV Line	
Instruction WERE WERE WERE S7167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 100.2 100.3 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2 100.2	10SP	WERE	WERE	57167 KEENE 3 115 to 57330 S AI MA 3 115 CKT 1	68	108.0	109.6	56852 IEC 6 230 to 56861 EMANHATE 230 CKT 1	0	May be relieved due to Westar Operating Procedure 900 -	
10SP WERE S7167 KEENE 3 115 to 57339 S ALMA 3 115 ct T 68 105.1 106.8 56861 EMANHATG 230 to 57326 EMANHATG 115 to 56888 EMANHATG 115 to 56888 Outage of the East Manhatan 230-115kV Transformer   10SP WERE WERE 57605 WHITE J269.0 to 57588 CHASE 269.0 CKT 1 43 99.7 102.2 56991 WEAVER 4 138 to 57604 WEAVER 113.2 CKT 1 3 Outage of the Weaver 138-69kV Transformer   10WP WERE S7167 KEENE 3 115 to 57151 AUBURN 3 115 cKT 1 68 108.3 109.8 56861 EMANHATG 230 to 57326 EMANHATG 18.0 CKT 1 0 Outage of the Weaver 138-69kV Transformer   10WP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 cKT 1 68 100.2 101.5 57413 CIRCLE 3 115 to 57419 HEC 3 115 cKT 1 0 Wage relieved due to Westar Operating Procedure 633 -   10WP WERE WERE 57412 ARKVALJ3 115 to 57433 CIRCLE 3 115 to 57419 HEC 3 115 cKT 1	1001	WEIKE	VVLINE	SHOF RELINE SHOLD STORE ALWARD THE OKT T	00	100.0	103.0	30032 3EC 0 230 10 3000 1 EMANITATO 230 OKT 1		May be relieved due to Westar Operating Procedure 633 -	
10SP WERE 57605 WHITE J269.0 to 57588 CHASE 269.0 CKT 1 43 99.7 102.2 56991 WEAVER 4 138 to 57604 WEAVER 269.0 to 57083 WEAVER 113.2 CKT 1 3 Outage of the Weaver 138-69KV Transformer   10WP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 109.8 56861 EMANHATG 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer   10WP WERE WERE 57412 ARKVALJ3 115 to 57151 AUBURN 3 115 CKT 1 68 100.2 101.5 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer   10WP WERE WERE 57417 CRCLE 3 115 CKT 1 68 100.2 101.5 57413 CIRCLE 3 115 CKT 1 0 KV Line   10WP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 102.1 103.6 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer   10WP WERE WERE 57167 KEENE 3 115 to 5733	10SP	WERE	WERE	57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1	68	105.1	106.8	56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1	0	Outage of the East Manhattan 230-115kV Transformer	
10WP WERE WERE 57167 KEENE 3 115 to 57151 AUBURN 3 115 CKT 1 68 109.8 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 May be relieved due to Westar Operating Procedure 633 - Outage of the East Manhattan 230-115kV Transformer   10WP WERE WERE 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 68 100.2 101.5 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 KV Line   10WP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 100.2 101.5 57413 CIRCLE 3 115 to 57419 HEC 3 115 CKT 1 0 KV Line   10WP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 102.1 103.6 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 kV Line   10WP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 102.1 103.6 56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1 0 Uatage of the East Manhatan 230-115kV Transformer   10WP WERE WERE 57372 PHILIPIS3 115 to 57374 SPHILPJ3 115 CKT 1 160 121.9 123.6 56	10SP	WERE	WERE	57605 WHITE J269.0 to 57588 CHASE 269.0 CKT 1	43	99.7	102.2	56991 WEAVER 4 138 to 57604 WEAVER 269.0 to 57083 WEAVER 113.2 CKT 1	3	Outage of the Weaver 138-69kV Transformer	
NUMP WERE WERE 57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1 68 100.2 101.5 57413 CIRCLE 3 115 to 57419 HC.3 115 co 57419 HC.3 115 co 57419 HC.3 <th< td=""><td>10\//P</td><td>WEDE</td><td>WEDE</td><td>57167 KEENE 2 115 to 57151 ALIDUDN 2 115 CKT 1</td><td>69</td><td>109.2</td><td>100.9</td><td>56961 EMANUATE 220 to 57226 EMANUAT2 115 to 56909 EMANUAT119 0 CKT 1</td><td>0</td><td>May be relieved due to Westar Operating Procedure 633 -</td><td></td></th<>	10\//P	WEDE	WEDE	57167 KEENE 2 115 to 57151 ALIDUDN 2 115 CKT 1	69	109.2	100.9	56961 EMANUATE 220 to 57226 EMANUAT2 115 to 56909 EMANUAT119 0 CKT 1	0	May be relieved due to Westar Operating Procedure 633 -	
Image: Note of the control o	TUVVF	WERE	WERE	5/10/ REENE 5/15/10 5/15/ A0BURN 5/15 CK1 1	00	100.5	109.0	30001 EMANITATO 230 to 37320 EMANITATS 113 to 30000 EMANITAT 110.0 CKT 1	0	May be relieved due to Westar Operating Procedure 1204 -	
International constraints International constrainteconstrandeconstraints Internation constraints<	1014/0		WEDE		60	100.0	404 5		0	Outage of the Circle to Hutchinson Energy Center (HEC) GT 115	
10WP WERE WERE 57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1 68 102.1 103.6 56861 EMANHATG 230 to 57326 EMANHAT118.0 CKT 1 0 Outage of the East Manhattan 230-115kV Transformer   10WP WERE VERE 57372 PHILIPS3 115 to 57374 SPHILIPJ3 115 CKT 1 160 121.9 123.6 56872 EMCPHERE 230 to 56873 SUMMIT 6 230 CKT 1 0 See Previous Upgrade Specified For Facility   10WP WERE WERE 57374 SPHILIPJ3 115 to 5738 WMCPHER3 115 CKT 1 68 133.4 56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 0 See Previous Upgrade Specified For Facility   10WP WERE WERE 57345 SPHILIPJ3 115 to 57438 WMCPHER3 115 CKT 2 92 114.8 116.4 56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 0 See Previous Upgrade Specified For Facility   10WP WERE WERE 57345 SHUPLIPJ3 115 to 57438 116.4 56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 0 See Previous Upgrade Specified For Facility	TUWP	WERE	WERE	57412 ARKVALJ3 115 to 57413 CIRCLE 3 115 CKT 1	68	100.2	101.5	5/413 CIRCLE 3 115 to 5/419 HEC 3 115 CKT 1	0	May be relieved due to Westar Operating Procedure 633 -	
10WP WERE VERE 5/3/2 PHILIPS 115 to 5/3/4 Specified For Facility   10WP WERE 5/3/2 PHILIPS 115 to 5/3/4 Specified For Facility 0 See Previous Upgrade Specified For Facility   10WP WERE 5/3/4 SPHILIPJ 3115 to 5/3/4 Specified For Facility 0 See Previous Upgrade Specified For Facility   10WP WERE 5/3/4 SPHILIPJ 3115 to 5/3/4 Specified For Facility 0 See Previous Upgrade Specified For Facility   10WP WERE 5/3/4 SPHILIPJ 3115 to 5/3/4 Specified For Facility 0 See Previous Upgrade Specified For Facility	10WP	WERE	WERE	57167 KEENE 3 115 to 57339 S ALMA 3 115 CKT 1	68	102.1	103.6	56861 EMANHAT6 230 to 57326 EMANHAT3 115 to 56888 EMANHAT118.0 CKT 1	0	Outage of the East Manhattan 230-115kV Transformer	
10WP WERE 57374 SPHILIP 13 115 to 57438 WMCPHER3 115 CKT 2 92 114 8 116 4 56872 EMCPHER8 230 to 56873 SUMMUT 6 230 CKT 1 0 See Previous Liporade Specified For Facility	10WP	WERE	WERE	5/3/2 PHILIPS3 115 to 5/3/4 SPHILPJ3 115 CKT 1 57374 SPHILPJ3 115 CKT 1	160 68	121.9	123.6 133.4	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1 56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	See Previous Upgrade Specified For Facility See Previous Upgrade Specified For Facility	
	10WP	WERE	WERE	57374 SPHILPJ3 115 to 57438 WMCPHER3 115 CKT 2	92	114.8	116.4	56872 EMCPHER6 230 to 56873 SUMMIT 6 230 CKT 1	0	See Previous Upgrade Specified For Facility	
10WP WERE WERE 57434 SANDHLJ3 115 to 57413 CIRCLE 3 115 CKT 1 141 103.4 105.5 56871 CIRCLE 6 230 to 57413 CIRCLE 3 115 to 56892 CIRCLE 113.8 CKT 1 0 Solution Undetermined, May Only Limit Renewal Rights	10WP	WERE	WERE	57434 SANDHLJ3 115 to 57413 CIRCLE 3 115 CKT 1	141	103.4	105.5	56871 CIRCLE 6 230 to 57413 CIRCLE 3 115 to 56892 CIRCLE 113.8 CKT 1	0	Solution Undetermined, May Only Limit Renewal Rights	
May be relieved due to Westar Operating Procedure 617 -	1014/0	WEDE	WEDE		144	111.4	111.0	56773 OLIMMIT 7345 IN 56973 OLIMMIT 0000 IN 50040 OLIMMIT 444 4 OVT 4	_	May be relieved due to Westar Operating Procedure 617 -	
10WF WERE 3/342 WJGCTTS 115 US 3/345 WJGCTTES 115 CKT 141 111.1 11.9 30//3 SUMIWIT /345 US 306/3 SUMIWIT 12/3 US 306/3 SUMIWIT 14.4 CKT 1 U Utage of the Summir Status With a status with the	TUWP	WERE	WERE	5/342 WJUUTY 3 115 to 5/343 WJUUTYE3 115 UKT 1	141	111.1	111.9	00/13 SUMMIT /345 to 508/3 SUMMIT 0230 to 50813 SUMMIT 114.4 CKT 1	U	May be relieved due to Westar Operating Procedure 402 -	
10WP WERE 57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1 141 111.5 112.2 56766 JEC N 7345 to 56773 SUMMIT 7345 CKT 1 0 Outage of the Jeffrey Energy Center to Summit 345 kV Line	10WP	WERE	WERE	57342 WJCCTY 3 115 to 57343 WJCCTYE3 115 CKT 1	141	111.5	112.2	56766 JEC N 7345 to 56773 SUMMIT 7345 CKT 1	0	Outage of the Jeffrey Energy Center to Summit 345 kV Line	
10WP   WERE   WERE   57438 WMCPHER3 115 to 57434 SANDHLJ3 115 CKT 1   68   98.5   100.5   56871 CIRCLE 6 230 to 57413 CIRCLE 3 115 to 56892 CIRCLE 113.8 CKT 1   19 Solution Undetermined, May Only Limit Renewal Rights	10WP	WERE	WERE	57438 WMCPHER3 115 to 57434 SANDHLJ3 115 CKT 1	68	98.5	100.5	56871 CIRCLE 6 230 to 57413 CIRCLE 3 115 to 56892 CIRCLE 113.8 CKT 1	19	Solution Undetermined, May Only Limit Renewal Rights	\$8 217 200