



SPP *Southwest Power Pool*

*System Impact Study
SPP-2003-041-1
For Transmission Service
Requested By
Cargill - Alliant*

From KCPL To ERCOTN

*For a Reserved Amount Of 200MW
From 1/1/2004 To 1/1/2005*

SPP Engineering, Tariff Studies

System Impact Study

Cargill - Alliant has requested a system impact study for long-term Firm Point-to-Point transmission service from KCPL to ERCOTN. The period of the transaction is from 1/1/2004 to 1/1/2005. The request is for OASIS reservations 482557 and 482560 for a total amount of 200 MW.

The principal objective of this study is to identify constraints on the SPP Regional Tariff System and potential facility upgrades that may be necessary to facilitate the additional 200 MW of service requested.

The KCPL to ERCOTN transfer was studied to determine the facility upgrades required based on the actual queue position of the request with only those higher priority requests in Facility Study mode included in the models. Higher priority requests still in study that have not gone to facility study were not included in the models. The results of the transfer analysis are documented in Table 1 of the report. The results given in Table 1 include upgrades that may be assigned to higher priority requests. The results of this study gives the customer an estimated cost of facility upgrades that may be required in order to accommodate the 200 MW KCPL to ERCOTN request.

SPP used six seasonal models to study the KCPL to ERCOTN 200 MW transfer for the requested service period. The SPP 2003 Series Cases 2003/04 Winter Peak (03WP), 2004 April Min (04AP), 2004 Spring Peak (04G), 2004 Summer Peak (04SP), 2004 Fall Peak (04FA), and 2004/05 Winter Peak (04WP) were used to study the impact of the 200 MW transfer on the SPP system during the requested service period of 1/1/2004 to 1/1/2005. 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 January 2003 base case series models.

With only the higher priority requests that have signed Facility Study Agreements included in the models, the study results of the KCPL to ERCOTN 200 MW show that a limiting constraint exists. Due to the limiting constraints identified, the Transmission Service Request cannot be granted. These results do not include an evaluation of potential constraints in the planning horizon beyond the reservation period that may limit the right to renew service. The upgrades and cost 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 higher priority requests, unknown facility upgrades that will be identified during the facility study process, and the final results of the full AC analysis. Execution of a Facility Study Agreement is now required to maintain queue position. The final upgrade solutions and cost assignments will be determined upon the completion of the facility study.

Table 1 – SPP facility overloads identified for the KCPL to ERCOTN transfer

| Study Year | From Area - To Area | Branch Over 100% Rate B | Rate B | Outaged Branch Causing Overload | ATC | Solution | Estimated Cost |
|------------|---------------------|--|--------|---|-----|---|----------------|
| 03WP | WFEC-WFEC | ACME - FRANKLIN SW 69KV | 34 | GOLDSBY - OKLAHOMA UNIVERSITY SW 69KV | 0 | Acme Jct to Acme Sub: Upgrade From 3/0 To 795MCM. Upgrade by WFEC schedules for 04SP | \$ - |
| 03WP | WFEC-WFEC | ACME - WEST NORMAN 69KV | 38 | CANADIAN SW 138/69KV TRANSFORMER | 0 | Acme Sub > West Norman: Upgrade from 3/0 to 795 ACSR. Upgrade by WFEC scheduled for 04WP | \$ - |
| 03WP | WFEC-WFEC | CANADIAN SW - NOBLE 69KV | 38 | PAOLI 138/69KV TRANSFORMER | 188 | WFEC Upgrade In-Service Date 04WP | \$ - |
| 03WP | AEPW-AEPW | CATOOSA - LYNN LANE EAST TAP 138KV | 234 | NORTHEAST STA - ONETA 345KV | 0 | Incorrect rating in the non-summer cases. Rate A/B = 237/265MVA | \$ - |
| 03WP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 1 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 2 | 0 | None - GRDA Mitigation Plan | \$ - |
| 03WP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 2 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 1 | 0 | None - GRDA Mitigation Plan | \$ - |
| 03WP | WERE-WERE | EL PASO - GILL ENERGY CENTER SOUTH 138KV | 210 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 03WP | WFEC-WFEC | LITTLE AXE - NOBLE 69KV | 26 | PAOLI 138/69KV TRANSFORMER | 0 | Solution Undetermined | N/A |
| 03WP | WERE-WERE | N.A. PHILIPS - N.A. PHILIPS JCT (SOUTH) 115KV | 159 | EAST MCPHERSON - SUMMIT 230KV | 146 | Rebuild 0.88 miles and reconductor with 1192.5 ACSR. Tear down double circuit, build single circuit with 1192.5 ACSR. | \$ 417,200 |
| 03WP | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 1 | 67 | EAST MCPHERSON - SUMMIT 230KV | 0 | | \$ 7,800,000 |
| 03WP | WFEC-WFEC | PAOLI 138/69KV TRANSFORMER | 42 | CANADIAN SW 138/69KV TRANSFORMER | 0 | WFEC Upgrade In-Service Date 04WP | \$ - |
| 04AP | WFEC-WFEC | ACME - FRANKLIN SW 69KV | 34 | CANADIAN SW 138/69KV TRANSFORMER | 0 | See Previous | \$ - |
| 04AP | WFEC-WFEC | ACME - WEST NORMAN 69KV | 38 | CANADIAN SW 138/69KV TRANSFORMER | 69 | See Previous | \$ - |
| 04AP | SWPS-SWPS | PALODU - RANDALL CO INTRCHNG 115KV | 98 | AMARILLO S INTRCHNG - SWISHER CO INTRCHNG 230KV | 179 | Rebuild 9 miles of 115 kV circuit with 397 ACSR on T-0-102 structures. | \$ 1,170,000 |
| 04G | WERE-WERE | ANZIO - FORT JCT SWI STA 115KV | 92 | WEST JCT CITY - WEST JCT CITY JCT (EAST) 115KV | 0 | WERE Operating Directive 1217, Outage of the Fort JCT - West JCT City 115KV Line | \$ - |
| 04G | WERE-WERE | ATHENS SWI STA - COFFEY CO NO. 4 VERNON 69KV | 43 | BENTON - WOLF CREEK 345KV | 0 | WERE Operating Directive 300, Outage of the Benton - Wolf Creek 345KV Line | \$ - |
| 04G | WERE-WERE | AUBURN ROAD - KEENE 115KV | 68 | E MANHATTAN - JEC 230KV | 0 | WERE Operating Directive 900, Outage of the E MANHATTAN - JEC 230KV Line | \$ - |
| 04G | WERE-WERE | CHISHOLM - RIPLEY 69KV | 128 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04G | WERE-WERE | CIRCLE - SANDHILL ARK VALLEY 115KV | 68 | CIRCLE - DAVIS 115KV | 0 | WERE Operating Directive 1205, Outage of the Circle - Davis 115KV Line | \$ - |
| 04G | WERE-WERE | COFFEY CO NO. 4 VERNON - GREEN 69KV | 43 | ROSE HILL - WOLF CREEK 345KV | 0 | WERE Operating Directive 301, Outage of the Rose Hill - Wolf Creek 345KV Line | \$ - |
| 04G | AEPW-AEPW | EAST CENTRAL HENRYETTA - OKMULGEE 138KV | 104 | KELCO - OKMULGEE 138KV | 115 | Replace Okmulgee Wavetrap | \$ 40,000 |
| 04G | WERE-WERE | EAST STREET - WEST EMPORIA 115KV | 92 | MORRIS CO - WEST EMPORIA 115KV | 74 | WERE Operating Directive 1209, Outage of the Morris CO - West Emporia 115KV Line | \$ - |
| 04G | WERE-WERE | EL PASO - GILL ENERGY CENTER SOUTH 138KV | 210 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04G | WERE-WERE | KEENE - SOUTH ALMA 115KV | 68 | E MANHATTAN - JEC 230KV | 0 | WERE Operating Directive 900, Outage of the E MANHATTAN - JEC 230KV Line | \$ - |
| 04G | WERE-WERE | KEREFORD JCT - NW LEAVENWORTH 115KV | 68 | ARNOLD - STRANGER CREEK 115KV | 0 | WERE Operating Directive 1200, Outage of the Arnold - Stranger Creek 115KV Line | \$ - |
| 04G | WERE-WERE | MEAD - PLAZA 69KV | 72 | EEC NORTH - EEC SOUTH 138KV | 0 | Incorrect rating in model. | \$ - |
| 04G | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 1 | 67 | EAST MCPHERSON - SUMMIT 230KV | 11 | See Previous | \$ - |
| 04SP | WERE-WERE | 27TH & CROCO - TECUMSEH HILL 115KV CKT 1 | 67 | AUBURN ROAD 230/161KV TRANSFORMER | 0 | WERE Operating Directive 618, Outage of the Auburn Road 230/161KV Transformer | \$ - |
| 04SP | WERE-WERE | 3RD & VAN BUREN - SANDHILL ARK VALLEY 115KV | 68 | CIRCLE - HUTCHINSON ENERGY CENTER 115KV | 0 | WERE Operating Directive 1204, Outage of the Circle - Hutchinson Energy Center 115KV Line | \$ - |
| 04SP | WFEC-WFEC | ACME - WEST NORMAN 69KV | 38 | CANADIAN SW 138/69KV TRANSFORMER | 0 | See Previous | \$ - |
| 04SP | WERE-WERE | AUBURN ROAD - KEENE 115KV | 68 | E MANHATTAN - JEC 230KV | 0 | WERE Operating Directive 900, Outage of the E MANHATTAN - JEC 230KV Line | \$ - |
| 04SP | OKGE-OKGE | BEELINE - TIBBENS 69KV | 66 | BLUEBELL 138/69KV TRANSFORMER | 0 | Solution Undetermined | N/A |
| 04SP | SWPS-SWPS | CANYON EAST - OSAGE SWI STA 115KV | 98 | BUSHLAND INTRCHNG - DEAF SMITH INTRCHNG 230KV | 0 | Rebuild 13 miles of 115 kV circuit with 397 ACSR on T-0-102 structures. | \$ 1,910,000 |
| 04SP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 1 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 2 | 0 | None - GRDA Mitigation Plan | \$ - |

Table 1 Continued – SPP facility overloads identified for the KCPL to ERCOTN transfer

| Study Year | From Area - To Area | Branch Over 100% Rate B | Rate B | Outaged Branch Causing Overload | ATC | Solution | Estimated Cost |
|------------|---------------------|--|--------|---|-----|---|----------------|
| 04SP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 2 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 1 | 0 | None - GRDA Mitigation Plan | \$ - |
| 04SP | WERE-WERE | CHISHOLM - RIPLEY 69KV | 128 | HALSTEAD SOUTH - SEDGWICK CO NO. 12 COLWICH 138KV | 0 | Solution Undetermined | N/A |
| 04SP | WERE-WERE | CIRCLE - SANDHILL ARK VALLEY 115KV | 68 | CIRCLE - HUTCHINSON ENERGY CENTER 115KV | 0 | WERE Operating Directive 1204, Outage of the Circle - Hutchinson Energy Center 115KV Line | \$ - |
| 04SP | GRRD-GRRD | COLLINSVILLE 161/69KV TRANSFORMER CKT 1 | 50 | COLLINSVILLE 161/69KV TRANSFORMER CKT 2 | 0 | Solution Undetermined | N/A |
| 04SP | AEPW-AEPW | EAST CENTRAL HENRYETTA - OKMULGEE 138KV | 105 | KELCO - OKMULGEE 138KV | 0 | See Previous | \$ - |
| 04SP | AEPW-AEPW | EAST CENTRAL HENRYETTA - WELEETKA 138KV | 104 | KELCO - OKMULGEE 138KV | 0 | Replace Weleetka Wavetrap | \$ 40,000 |
| 04SP | SWPS-SWPS | EAST PLANT INTRCHNG 115/69KV XFR CKT 1 | 46 | COULTER INTRCHNG 115/69KV TRANSFORMER | 0 | Solution Undetermined | N/A |
| 04SP | SWPS-SWPS | EAST PLANT INTRCHNG 115/69KV XFR CKT 2 | 46 | NORTHWEST INTRCHNG 115/69KV TRANSFORMER CKT 1 | 0 | Solution Undetermined | N/A |
| 04SP | WERE-WERE | EAST STREET - WEST EMPORIA 115KV | 91 | MORRIS CO - WEST EMPORIA 115KV | 0 | WERE Operating Directive 1209, Outage of the Morris CO - West Emporia 115KV Line | \$ - |
| 04SP | AEPW-AEPW | FLINT CREEK - TONTITOWN 161KV | 311 | FLINT CREEK - GENTRY REC 161KV | 0 | Rebuild 16.3 miles of 2-297 ACSR with 2156 ACSR. Replace Flint Creek wavetrap & jumpers. Replace Flint Creek switch # 1K75 | \$ 8,200,000 |
| 04SP | OKGE-WFEC | FRANKLIN SW - MIDWEST TAP 138KV | 211 | PHAROAH - WETUMKA 138KV | 198 | Replace 800 amp wavetrap with 2000 amp wavetrap at Franklin Switch and 795ACSR jumpers with 1590ACSR, connectors | \$ 24,000 |
| 04SP | OKGE-OKGE | FT SMITH 500/161KV TRANSFORMER | 475 | FT SMITH 345/161KV TRANSFORMER | 188 | Convert Ft. Smith 161kv to 1-1/2 breaker design and install 2nd 500-161kv transformer bank. | \$ 7,000,000 |
| 04SP | SWPS-SWPS | HAPPY INTRCHNG - PALODU 115KV | 98 | AMARILLO S INTRCHNG - SWISHER CO INTRCHNG 230KV | 172 | Rebuild 24 miles of 115 kV circuit with 397 ACSR on T-0-102 structures. | \$ 3,130,000 |
| 04SP | SWPS-SWPS | HASTNGS2 - VAN BUREN 1 TAP 69KV | 59 | COULTER INTRCHNG 115/69KV TRANSFORMER | 0 | Solution Undetermined | N/A |
| 04SP | SWPA-ENTR | HERGETT - JONES 161KV | 148 | JONES - JONESBORO 161KV | 0 | Solution Undetermined | N/A |
| 04SP | OKGE-OKGE | HORSESHOE LAKE - RENO 138KV | 287 | HORSESHOE LAKE - MIDWAY 138KV | 0 | Replace switches & ct's at Horseshoe Lake in 2004 at OKGE expense. | \$ - |
| 04SP | AEPW-AEPW | HUNTINGTON - MIDLAND REC 69KV | 36 | AES - TARBY 161KV | 0 | Solution Undetermined | N/A |
| 04SP | WERE-WERE | JARBALO JCT SWI STA - NW LEAVENWORTH 115KV | 125 | HALLMARK - JARBALO JCT SWI STA 115KV | 0 | WERE Operating Directive 1216, Outage of the Hallmark - Jarbalo JCT Switching STA 115KV Line | \$ - |
| 04SP | SWPS-SWPS | NORTHWEST INTRCHNG 115/69KV TRANSFORMER | 45 | HASTNGS2 - VAN BUREN 1 TAP 69KV | 0 | Solution Undetermined | N/A |
| 04SP | SWPS-SWPS | PALODU - RANDALL CO INTRCHNG 115KV | 99 | AMARILLO S INTRCHNG - SWISHER CO INTRCHNG 230KV | 44 | See Previous | \$ - |
| 04SP | OKGE-OKGE | PANTHER - SILVER LAKE 138KV | 286 | LONEOAK - NORTHWEST 138KV | 0 | Upgrade completed by OKGE. Rate A/B = 478/478MVA | \$ - |
| 04SP | WFEC-WFEC | PAOLI 138/69KV TRANSFORMER | 42 | CANADIAN SW - NOBLE 69KV | 2 | WFEC Upgrade In-Service Date 04WP | \$ - |
| 04SP | WERE-WERE | ROSE HILL JCT - WEAVER 69KV | 43 | EL PASO - FARBER 138KV | 0 | Move Rose Hill Jct. 69 kV load to Rose Hill 345/138 kV subSTA. Requires new transformer bay and a new 25 MVA 138-12 kV transformer. | \$ 1,400,000 |
| 04SP | GRRD-GRRD | TAHLEQUAH 161/69KV TRANSFORMER CKT 2 | 78 | TAHLEQUAH 161/69KV TRANSFORMER CKT 1 | 0 | Add 3rd 161/69 KV Transformer | \$ 1,400,000 |
| 04SP | AEPW-AEPW | TERRA NITROGEN TAP - VERDIGRIS 138KV | 149 | NORTHEAST STA - OWASSO SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04FA | AEPW-AEPW | 21ST STREET TAP - TULSA SOUTHEAST 138KV | 171 | NORTHEAST STA - ONETA 345KV | 161 | In house upgrade scheduled for May 2004. New Summer Rate B = 235MVA. New Other Rate B = 263MVA. | \$ - |
| 04FA | WERE-WERE | ANZIO - FORT JCT SWI STA 115KV | 92 | WEST JCT CITY - WEST JCT CITY JCT (EAST) 115KV | 0 | WERE Operating Directive 1217, Outage of the Fort JCT - West JCT City 115KV Line | \$ - |
| 04FA | WERE-WERE | AUBURN ROAD - KEENE 115KV | 68 | E MANHATTAN - JEC 230KV | 0 | WERE Operating Directive 900, Outage of the E MANHATTAN - JEC 230KV Line | \$ - |
| 04FA | AEPW-AEPW | CATOOSA - LYNN LANE EAST TAP 138KV | 234 | WEKIWA 345/138kv TRANSFORMER | 0 | Incorrect rating in the non-summer cases. Rate A/B = 237/265MVA | \$ - |
| 04FA | WERE-WERE | CHISHOLM - RIPLEY 69KV | 128 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04FA | WERE-WERE | CIRCLE - SANDHILL ARK VALLEY 115KV | 68 | CIRCLE - DAVIS 115KV | 0 | WERE Operating Directive 1205, Outage of the Circle - Davis 115KV Line | \$ - |
| 04FA | WERE-WERE | CIRCLEVILLE - HOYT HTI SWI JCT 115KV | 95 | HOYT - STRANGER CREEK 345KV | 0 | WERE Operating Directive 803, Outage of the Hoyt - Stranger Creek 345KV Line | \$ - |
| 04FA | OKGE-OKGE | DRAPER LAKE 345/138KV TRANSFORMER CKT 1 | 490 | DRAPER LAKE 345/138KV TRANSFORMER CKT 2 | 0 | Add third 345 - 138 kV transformer at Draper in 2008 at OKGE expense and use the operating directive until 2008. | \$ - |

Table 1 Continued – SPP facility overloads identified for the KCPL to ERCOTN transfer

| Study Year | From Area - To Area | Branch Over 100% Rate B | Rate B | Outaged Branch Causing Overload | ATC | Solution | Estimated Cost |
|------------|---------------------|--|--------|--|-----|--|----------------|
| 04FA | OKGE-OKGE | DRAPER LAKE 345/138KV TRANSFORMER CKT 2 | 490 | DRAPER LAKE 345/138KV TRANSFORMER CKT 1 | 0 | Add third 345 - 138 kV transformer at Draper in 2008 at OKGE expense and use the operating directive until 2008. | \$ - |
| 04FA | OKGE-OKGE | EARLSBORO - FOREST HILL 69KV | 48 | FOREST HILL - MAUD 138KV | 147 | Solution Undetermined | N/A |
| 04FA | WERE-WERE | EAST STREET - WEST EMPORIA 115KV | 92 | MORRIS CO - WEST EMPORIA 115KV | 0 | WERE Operating Directive 1209, Outage of the Morris CO - West Emporia 115KV Line | \$ - |
| 04FA | WERE-WERE | EL PASO - GILL ENERGY CENTER SOUTH 138KV | 210 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04FA | WERE-WERE | EXIDE JCT - N.A. PHILIPS 115KV | 196 | EAST MCPHERSON - SUMMIT 230KV | 17 | Rebuild and reconductor 0.34 miles with 1192 ACSR. | \$ 95,200 |
| 04FA | WERE-WERE | EXIDE JCT - SUMMIT 115KV | 196 | EAST MCPHERSON - SUMMIT 230KV | 0 | Rebuild and reconductor 4.94 miles with 1192 ACSR. | \$ 1,100,000 |
| 04FA | WERE-WERE | FORT JCT SWI STA - MCDOWELL CREEK SWI STA 115KV | 68 | JEC - SUMMIT 345KV | 0 | WERE Operating Directive 402, Outage of the JEC - Summit 345KV Line | \$ - |
| 04FA | WERE-WERE | KEENE - SOUTH ALMA 115KV | 68 | E MANHATTAN - JEC 230KV | 0 | WERE Operating Directive 900, Outage of the E MANHATTAN - JEC 230KV Line | \$ - |
| 04FA | WERE-WERE | MEAD - PLAZA 69KV | 72 | EEC NORTH - EEC SOUTH 138KV | 0 | Incorrect rating in model. | \$ - |
| 04FA | WERE-WERE | N.A. PHILIPS - N.A. PHILIPS JCT (SOUTH) 115KV | 155 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04FA | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 1 | 66 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04FA | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 2 | 90 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04FA | SWPS-SWPS | NORTHWEST INTRCHNG 115/69KV TRANSFORMER | 45 | EAST PLANT INTRCHNG - VAN BUREN 1 TAP 69KV | 0 | Solution Undetermined | N/A |
| 04FA | OKGE-OKGE | PANTHER - SILVER LAKE 138KV | 286 | LONEOAK - NORTHWEST 138KV | 0 | Upgrade completed by OKGE. Rate A/B = 478/478MVA | \$ - |
| 04FA | AEPW-AEPW | SAND SPRINGS - SHEFFIELD 138KV | 139 | WEKIWA - WEST EDISON TAP 138KV | 23 | Replace Sand Springs switch 1306, 1307, & 1308 | \$ 75,000 |
| 04FA | AEPW-AEPW | SAND SPRINGS - WEST EDISON TAP 138KV | 143 | SHEFFIELD - WEKIWA 138KV | 78 | Replace Sand Springs switches 1314, 1315, & 1316 | \$ 75,000 |
| 04G | WFEC-WFEC | ACME - FRANKLIN SW 69KV | 34 | CANADIAN SW 138/69KV TRANSFORMER | 0 | See Previous | \$ - |
| 04WP | AEPW-AEPW | CATOOSA - LYNN LANE EAST TAP 138KV | 234 | TULSA NORTH - WEKIWA 345KV | 7 | Incorrect rating in the non-summer cases. Rate A/B = 237/265MVA | \$ - |
| 04WP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 1 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 2 | 0 | None - GRDA Mitigation Plan | \$ - |
| 04WP | AEPW-GRRD | CATOOSA 161/138KV TRANSFORMER CKT 2 | 150 | CATOOSA 161/138KV TRANSFORMER CKT 1 | 0 | None - GRDA Mitigation Plan | \$ - |
| 04WP | WERE-WERE | CIRCLEVILLE - HOYT HTI SWI JCT 115KV | 95 | HOYT - STRANGER CREEK 345KV | 0 | WERE Operating Directive 803, Outage of the Hoyt - Stranger Creek 345KV Line | \$ - |
| 04WP | GRRD-GRRD | COLLINSVILLE 161/69KV TRANSFORMER CKT 1 | 50 | COLLINSVILLE 161/69KV TRANSFORMER CKT 2 | 144 | Solution Undetermined | N/A |
| 04WP | AEPW-AEPW | EAST CENTRAL HENRYETTA - OKMULGEE 138KV | 105 | KELCO - OKMULGEE 138KV | 69 | See Previous | \$ - |
| 04WP | WERE-WERE | EL PASO - GILL ENERGY CENTER SOUTH 138KV | 210 | EEC NORTH - EEC SOUTH 138KV | 0 | Solution Undetermined | N/A |
| 04WP | WERE-WERE | EXIDE JCT - SUMMIT 115KV | 196 | EAST MCPHERSON - SUMMIT 230KV | 199 | See Previous | \$ - |
| 04WP | AEPW-AEPW | FLINT CREEK - TONTITOWN 161KV | 334 | FLINT CREEK - GENTRY REC 161KV | 0 | See Previous | \$ - |
| 04WP | WFEC-WFEC | LITTLE AXE - NOBLE 69KV | 26 | PAOLI 138/69KV TRANSFORMER | 0 | Solution Undetermined | N/A |
| 04WP | WERE-WERE | N.A. PHILIPS - N.A. PHILIPS JCT (SOUTH) 115KV | 156 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04WP | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 1 | 66 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04WP | WERE-WERE | N.A. PHILIPS JCT (STH) - W MCPHERSON 115KV CKT 2 | 90 | EAST MCPHERSON - SUMMIT 230KV | 0 | See Previous | \$ - |
| 04WP | OKGE-OKGE | PANTHER - SILVER LAKE 138KV | 286 | LONEOAK - NORTHWEST 138KV | 0 | Upgrade completed by OKGE. Rate A/B = 478/478MVA | \$ - |
| 04WP | WFEC-WFEC | PAOLI 138/69KV TRANSFORMER | 42 | CANADIAN SW - NOBLE 69KV | 60 | WFEC Upgrade In-Service Date 04WP | \$ - |
| Total | | | | | | | \$ 33,876,400 |