



To: Melinda Harger, Engineer and Project Manager
P.O. Box 708
Lawrence, KS 66044-0708
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Cost estimate for 3 phase 12kV distribution redundant feed for Wakarusa Wastewater Treatment Plant.

Dear Melinda,

In order for Westar Energy to serve The City of Lawrence with a requested 3 phase 12kV back up distribution feed for the new WWTP, Westar Energy must build a new 3 phase 12kV distribution line from the intersection of E. 1500 Rd. and N. 1000 Rd., east one mile to the intersection of N. 1000 Rd. and E. 1600 Rd., then north 1.75 miles to E. 1175 Rd. west of the new plant. The existing conductors and poles are not sufficient to feed the requested backup load of the new plant.

Westar proposes to construct a new 3 phase 12kV overhead distribution line using 4-1/0 ASCR conductors that meets all applicable company and regulatory standards and that will handle the load requirements of the new plant.

Attached is a bill of materials for this work request. This project will require approximately 5,000 man hours to complete the installation and removal of all materials.

Existing and future load by customers along the proposed route did not necessitate an upgrade to existing conductors and poles, therefore Westar Energy has asked that the City of Lawrence contribute the entire cost of this project.

Westar's total estimated cost of the materials, easement acquisitions, R/W staking, engineering, and construction labor is: \$1, 400,000.00

If you have any questions or concerns, please get in touch with Mark Gettys at 785-865-4853.

Thank You,

Peter Trembly
Technical Specialist Design
Westar Energy
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MATL
04/29/16

WESTAR ENERGY
SUMMARY BILL OF MATERIAL

COMPANY: 001 REGION: 001 DIST: 3401 W/R#: 044501 WO#: 000000 CREW HQ: 3401E1
STATUS 60 ON 03/28/16 UNDER CONSTRUCTION SCHEME NUMBER: WPA: 150
PROJECT NAME: REDUNDANT FEED FOR WAKARUSA WWTP ZONE: 150
JOB ADDRESS : N 1000 RD,E 1600 RD,LAWRENCE TYPE: MAJOR SIMP
STOREROOM NUMBER : 0001 TOPEKA SCHED START DATE: 01/22/16

WHSE : FINANCE CODE : 11/3401/

REMARKS : STORES PROG.DATE : STORES REF.NO. :

STOCK ITEM #	STOCK ITEM DESCRIPTION	UOM	QTY	LEAD TIME (DAYS)
0009030	DECAL-"FAULT INDICATOR" ADHESI	EA	1	42
0031500	TIE-TOP 2 ACSR C NECK	EA	46	7
0031700	TIE-TOP 1/0 ACSR 6/1 STR C NEC	EA	195	7
0033901	TIE-DOUBLE SIDE 1/0 ACSR C AND	EA	3	42
0035800	TIE-SPOOL 1/0 ACSR 6/1 STR COL	EA	52	10
0037150	TIE-DOUBLE SUPPORT 1/0 ACSR 6/	EA	3	42
0071610	ASSEMBLY-DEADEND, FIBERGLASS,	EA	16	7
0073000	ARM-CROSS 3.75" X 4.75" X 10'	EA	6	10
0073001	CROSSARM FIBERGLASS FOR 34.5,	EA	3	7
0074255	ARRESTER-LIGHTNING 10 KV DIST,	EA	28	10
0075200	ARRESTER-ELBOW SURGE, 10KV,8.4	EA	3	7
0085400	CUTOUT 15 KV 100 AMP OPEN TYPE	EA	24	7
0085401	CUTOUT 15 KV 100 AMP LOAD BREA	EA	9	7
0088650	SWITCH-15KV, 110 BIL, 900A 3PH	EA	2	45
0088703	HANDLE-PIPE 7', EXTRA FOR AB C	EA	2	42
0090000	TERMINATOR-COLD SHRINK, 1/C 15	EA	1	7
0091002	INDICATOR-LINE FAULT, TEST POI	EA	3	7
0091203	ENCLOSURE-SWITCHING, DEADFRONT	EA	1	7
0093800	CAP-INSULATING 8.3 KV 200 AMP	EA	6	7
0095000	CONDUIT-PLASTIC PVC 2" SCH 40	FT	20	10
0095011	CONDUIT-PLASTIC PVC 3 IN SCH 8	FT	30	10
0095100	CONDUIT-PLASTIC PVC, 4" SCH 40	WIT FT	40	0
0095300	ADAPTER-PLASTIC PVC 2" FEMALE	EA	1	42
0095950	ELBOW-PLASTIC PVC 3" 90 DEG 24	EA	2	10
0097741	CONNECTOR-PEDESTAL, 6 POSITION	EA	3	7
0097850	CONNECTOR-GROUNDING TRANSFORME	EA	12	10
0100900	BRACKET-MOUNTING 18"VERT INS/E	EA	171	7
0101000	BRACKET-ARRESTOR CUTOUT ONE PO	EA	8	7
0101300	BRACKET-ARRESTER/CUTOUT 3-POS	EA	2	7
0101360	BRACKET-ARRESTER RISER	EA	4	7
0102200	BRACKET-CONDUIT STAND OFF 6",	EA	30	7
0102495	BOLT-U 3/8" X 4" FOR USE ON 3"	EA	18	10
0102500	BOLT-U 3/8 IN X 5 IN FOR USE O	EA	6	10
0103200	CONDUIT-STEEL-GALV-RIGID 2 IN	FT	14	10
0103400	CONDUIT-STEEL-GALV-RIGID 4 IN	FT	10	42
0103800	HEAD-ENTRANCE 3 IN CLAMP TYPE	EA	3	7
0104100	SUPPORT-CABLE 2" CONDUIT 1 #2-	EA	1	7
0104103	SUPPORT-CABLE 4 INCH CONDUIT 3	EA	1	7
0104300	ELBOW-STEEL, GALV 3 IN 90 DEG 24 I	EA	1	0
0105700	FUSE LINK 6 AMP TYPE T SOLID H	EA	8	10
0106100	FUSE LINK 10 AMP TYPE T SOLID	EA	1	10
0108800	FUSE LINK 100 AMP TYPE T SOLID	EA	23	10
0110000	INSULATOR SPOOL TYPE NEMA 53-2	EA	68	10
0110800	INSULATOR-15 KV, PIN TYPE, ANS	EA	199	7

THE BUDGET WILL NOT BE OVERSPENT/
EMERGENCY JUSTIFIES OVERSPENDING

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0114300	INSULATOR-SUSPENSION/DEADEND P	EA	123	7
0119900	INSULATOR-GUY STRAIN, FG 24" 1	EA	19	7
0120000	INSULATOR-GUY STRAIN, FG 54" 1	EA	7	10
0120010	INSULATOR-GUY STRAIN, FG 78" 1	EA	6	7
0130200	POLE 40 FT CLASS 4 SYP, PENTA	EA	9	7
0131101	POLE 45 FT CLASS 3 SYP, PENTA	EA	2	7
0132000	POLE 50 FT CLASS 3 SYP, PENTA	EA	2	7
0132801	POLE 55 FT CLASS 2 SYP, PENTA	EA	51	7
0133610	POLE 60 FT CLASS 2 SYP, PENTA	EA	1	7
0144000	CABLE-URD 1/0 AL 19STR TPX/2 A	FT	50	84
0146901	CABLE-2 AL 7 STR TPX #4 ACSR N	FT	101	35
0161280	CONDUCTOR-CW, #4, ANNEALED DEA	LB	355	28
0161300	WIRE 4 AWG SOLID CU SOFT DRAWN	LB	115	7
0161350	WIRE LINE 4 AWG SOLID WP CU SO	FT	135	10
0162702	CONDUCTOR-BARE #2 ACSR 6/1 STR	LB	56	84
0162802	CONDUCTOR-BARE 1/0 ACSR 6/1 ST	LB	8515	84
0164800	ANCHOR-11 15/16 IN. SINGLE HEL	EA	26	7
0165000	ANCHOR-POLE KEY ASPHALT COATED	EA	1	10
0168200	BRACKET-TURNFORMER 3POS 3-50	EA	1	7
0168800	LINK-EXTENSION 14 IN GALV STEE	EA	60	7
0169400	SHACKLE-ANCHOR GALV STEEL 5/8	EA	17	10
0169700	BOLT-DA 5/8 IN X 16 IN GALV 4	EA	3	10
0169800	BOLT-DA 5/8 IN X 18 IN GALV 4	EA	1	10
0170000	BOLT-DA 5/8 IN X 22 IN GALV 4	EA	30	10
0170001	BOLT-DA 5/8 IN X 24 IN GALV 4	EA	3	10
0171400	BOLT-LAG 1/2 IN X 4 IN GALV ST	EA	78	10
0172753	BOLT-1/2" X 1 1/2" HEX HEAD ST	EA	48	10
0173200	BOLT-MACHINE 1/2" X 6" GALV ST	EA	68	10
0174201	BOLT-MACHINE 5/8 IN X 2 IN GAL	EA	1	42
0174300	BOLT-MACHINE 5/8 IN X 10 IN GA	EA	6	10
0174400	BOLT-MACHINE 5/8 IN X 12 IN GA	EA	114	10
0174500	BOLT-MACHINE 5/8 IN X 14 IN GA	EA	373	10
0174800	BOLT-MACHINE 5/8 IN X 16 IN GA	EA	35	10
0174801	BOLT-MACHINE 5/8 IN X 18 IN GA	EA	3	10
0175700	BOLT-MACHINE 3/4 IN X 12 IN GA	EA	21	10
0175900	BOLT-MACHINE 3/4 IN X 14 IN GA	EA	19	10
0176000	BOLT-MACHINE 3/4 IN X 16 IN GA	EA	3	10
0176027	BOLTEYE-THREADLESS (EYELET) SL	EA	6	42
0183300	BRACE-WOOD CROSS ARM 60 IN SPA	PR	4	10
0186500	CLEVIS-INSULATED GALV STEEL 5/	EA	66	7
0191400	CLAMP-STRAIN MI GALV .16" - .5	EA	2	7
0193400	CLAMP-GROUND ROD 5/8 IN CU ALL	EA	26	10
0194200	GRIP GUY ,DEAD END FORMED 3/8	EA	52	7
0194420	DEAD END-SLACK SPAN-FORMED GRI	EA	4	10

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0194440	DEAD END-SLACK SPAN-FORMED GRI	EA	12	10
0195301	DEAD END-FORMED-SERVICE GRIP 4	EA	1	10
0199350	LUG-TERMINAL-COMPRESSION-AL 6	EA	24	10
0200000	LUG-TERMINAL-COMPRESSION-AL 1/	EA	24	10
0203227	CONNECTOR-TAP-COMPRESSION-AL 3	EA	52	10
0203229	CONNECTOR-TAP-COMPRESSION-AL 1	EA	60	10
0203239	CONNECTOR-TAP, COMPRESSION-CU	EA	71	10
0204000	ADAPTER-TERMINAL-SLEEVE COMP-A	EA	3	10
0205096	HOOK/EYE-GUY, COMBINATION ATTAC	EA	20	7
0205101	GUY-SIDEWALK-POLE PLATE (MUST	EA	1	42
0205102	GUY-SIDEWALK-CLAMP END FIT (MU	EA	1	42
0206100	NUT-EYE 5/8 IN GALV STEEL	EA	132	10
0206101	NUT-EYE 3/4 IN GALV STEEL	EA	12	10
0207900	GUARD-GUY, 8 FT PLASTIC, POLYE	EA	25	7
0208700	WIRE-GUY 3/8 IN HIGH STRENGTH	FT	1470	10
0211601	NUT-LOCK-M-F 1/2 IN GALV STEEL	EA	66	10
0211602	NUT-LOCK-M-F 5/8 IN GALV STEEL	EA	641	10
0211603	NUT-LOCK TYPE, M.F., GALVANIZE	EA	43	10
0211606	NUT-SQUARE 5/8 IN GALV STEEL	EA	12	10
0211607	NUT-SQUARE 3/4 IN GALV STEEL	EA	3	10
0212402	MOULDING-PLASTIC 1/2 INCH X 8	EA	52	10
0213800	PIN-POLE TOP 1 IN NYLON THREAD	EA	4	7
0214600	PIN-1 IN THREAD, 5/8 IN SHANK,	EA	30	7
0214601	PIN-1 IN THREADED 5/8 IN SHANK	EA	147	7
0214800	PIN-ADAPTER 1 IN NYLON THREAD	EA	6	10
0224400	ROD-ANCHOR, 1X7 FT W ITH TWIN-E	EA	27	7
0225100	ROD-GROUND 5/8 IN X 8 FT COPPE	EA	26	7
0230002	SLEEVE-COMPRESSION-SEMI-TENSIO	EA	26	10
0231000	SLEEVE-COMPRESSION-AL JUMPER 1	EA	12	10
0238000	STIRRUP-COMPRESSION 2 ACSR-1/0	EA	53	7
0246901	STAPLE-GROUND WIRE, .148 " X 3	EA	768	10
0246902	STAPLE-MOULDING 2" X 5/8" X	EA	520	10
0252000	WASHER-SQ 2 1/4 IN X 2 1/4 IN	EA	689	10
0441400	STUD-INSULATOR MOUNTING 3/4 IN	EA	12	32
0830145	TRANSFORMER-OVERHEAD, 1PH, 25K	EA	5	70
0830147	TRANSFORMER-OVERHEAD, 1PH, 50K	EA	1	70
1021540	TRANSFORMER-1000 03230505	EA	1	0
2110448	PADLOCK-SHORT, 7/8" CLEARANCE,	EA	7	7
7208038	SWITCH 15KV, 110 BIL, 900A, 3P	EA	2	10
7560220	ANCHOR-WOOD, 3" X 8" X 36"	EA	14	7
7560315	ADAPTER-PLASTIC PVC 3" FEMALE	EA	2	42
7561622	CLEVIS-INSULATOR, EXTENDED FOR	EA	2	10
7561749	CONDUIT-FLEXIBLE 3" PVC COURIG	FT	10	42
7561757	CONDUIT-PLASTIC PVC 3" SCH 40	FT	165	10

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7566404	PEDESTAL-SECONDARY, POLYPROPYL	EA	1	7
7567330	PLATE-D.A., 1/2" X 4" X 26-1/2	EA	1	42
7568890	TAG-MARKING HDPE RED 2"X2-1/2"	EA	3	10
7568891	TAG-MARKING HDPE WHITE 2" X 2	EA	3	10
7568892	TAG-MARKING HDPE BLUE 2X2 1/2"	EA	3	10
7568893	TAG-MARKING, HDPE, YELLOW 2"X2	EA	12	10
7569414	WASHER-GUYING 4" 3/4" BOLT	EA	25	10
7569423	WASHER-SQUARE 1/2" BOLT	EA	66	10
7651497	CABLE-URD, 4/0 ALUMINUM 19STR	FT	4184	35
7651514	CABLE-UDG #2 CID AL 7STR 15KV	FT	44	35
7655751	CABLE-URD 350MCM AL 37STR TPX-	FT	61	84
7670730	CLAMP-DEAD END,#6, #4, #2 TO 4	EA	152	7
7672935	CLIP-BONDING, GROUND WIRE, BOL	EA	2	10
7673348	CONNECTOR-LIVE LINE BRONZE,2/0	EA	63	7
7684126	TERMINATOR-OUTDOOR 4/0 STR 15K	EA	3	10
7684156	TERMINATOR-LB ELBOW COMPL.KIT	EA	9	10
7698651	LINK-CHAIN, 1/2" FOR SHIELD WI	EA	12	10
7736225	BOLT-U 3/8" X 2" FOR USE ON 2"	EA	6	10
7899649	WASHER-SPRING, 3/4 INCH, HEAVY	EA	3	10
8002264	BRACE FIBERGLASS CROSSARM, 60	PR	5	10

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