2006 Preliminary Transmission Budget

Budget Priority	Project Category	Category Priority	Project Priority	NAME	LOCATION	DESCRIPTION	TRIGGER	Engineer	Running Total	Running %	2006 Total	2006 CONC	2006 Removal	InSvcDate
1	Safety	1	1	Replace Overdutied Breakers - Year 1	Various Transmission Substations	Replace 41 Power Circuit Breakers determined to be borderline for short circuit interrupting capacity. Year 1 of 2 year project.	OG&E Breaker Duty Study, System Integrity, July 2005	Labude	$ 4,334,000	8.4%	$ 4,334,000	$ 3,940,000	$ 394,000	12/31/2006
2	Safety	1	2	Replace OKC area 138kV Grounding Switches	Stonewall, Westinghouse & Wilkinson Substations	Replace 138kV grounding switches with transformer high side interrupters.	Planning Study 10091 recommendations.	Hyde	$ 5,076,500	9.8%	$ 742,500	$ 675,000	$ 67,500	12/31/2006
3	Regulatory	2	1	Brown Substation	Brown Sub	Increase the CTR at Brown(55157) to 600A on the Brown(55157) - Sbrown(52802) line.	Contingency Overload. Criteria Violation	Estel	$ 5,087,500	9.9%	$ 11,000	$ 10,000	$ 1,000	6/1/2006
4	Regulatory	2	2	Reno 69kV sub	Reno, OKC	At Réno 69kV sub, increase the trap & CT to 1200A on the Reno(54972) - Sunnylane(54980) 69kV line. May have to install Aux. CT's on the differential protective relaying. Criteria Violation	Contingency Overload	Estel	$ 5,142,500	10.0%	$ 55,000	$ 50,000	$ 5,000	6/1/2006
5	Regulatory	2	3	Van Buren 69kV	Van Buren Sub	Increase the 800A CT & Trap to 1200A on the VBAVEC(55298) - VBI(55336) 69kV line.	Criteria violation in the 2006 SPP planning model.	Hardebeck	$ 5,175,676	10.0%	$ 33,176	$ 30,160	$ 3,016	6/1/2006
6	Regulatory	2	4	Short Mtn-Razorback OGE Cnst 16 mi of 161(69) line	Short Mountain to new Razorback OGE Substation	Contingency Study shows Helberg 161-69kV transformer overload for loss of Little Spadra 161-69kV transformer. Need to complete the south loop pre-summer 2006 and convert to 161kV by 2010.	Overload of Helberg Transformer. Criteria Violation	Hyde	$ 8,048,547	15.6%	$ 2,872,871	$ 2,611,701	$ 261,170	5/31/2006
7	Regulatory	2	5	Woodward District - Iodine 138kV line	Between Woodward District and Iodine Subs	In 2006, construct 22 miles (approx) of new 138kV line to connect radial 138kV subs at Woodward District (Sub # 4608D) and Iodine (Sub #4624D).	Relieves Criteria violation on WFEC system in Woodward, for the loss of the Windfarm sub (#4918T) to Mooreland WFEC line. Allows complete integration of wind generation from Wind Energy Center north of Woodward OK.	Hardebeck	$ 12,888,547	25.0%	$ 4,840,000	$ 4,400,000	$ 440,000	12/31/2006
8	Regulatory	2	6	FERC Cyber Security Server	Metro	Add server and software to prevent hackers from hackers access to comply with FERC standards	FERC Cyber security requirements	Labude	$ 13,138,547	25.4%	$ 250,000	$ 250,000	$ -	
9	Regulatory	2	6	Caney Creek 138kV Capacitors	Caney Creek	Install 30MVAR 138kV capacitor bank and a 138kV zero crossing breaker. Size the capacitor rack for future total size of 45MVAR.	Low Voltage	Hyde	$ 13,688,547	26.5%	$ 550,000	$ 500,000	$ 50,000	6/15/2006
10	Regulatory	2	7	Chickasaw 138kV Capacitors	Chickasaw Substation	Install 30MVAR 138kV capacitor bank and a 138kV zero crossing breaker. Size the capacitor rack for future total size of 45MVAR.	Low Voltage	Hyde	$ 14,238,547	27.6%	$ 550,000	$ 500,000	$ 50,000	6/15/2006
11	Regulatory	2	8	Chickasaw & Park Lane Breaker Failure Relaying	Chickasaw and Park Lane Substations	Install breaker failure relaying on all transmission breakers. Motorize one tie switch on each tie-breaker in order to prevent the loss of the entire voltage section for a tie breaker failure.	Approved Planning Study K-10085 identified extreme consequences for a breaker failure at these locations. Criteria Violation of NERC Table 1C&D.	Hyde	$ 14,788,547	28.6%	$ 550,000	$ 500,000	$ 50,000	12/31/2006
12	Regulatory	2	9	Muskogee & So. 4th Breaker Failure Relaying	Muskogee and So.4th St. Substations	Install breaker failure relaying on all transmission breakers. Motorize tie switches on each tie-breaker in order to prevent the loss of the entire voltage section for a tie breaker failure.	Approved Planning Study K-10085 identified extreme consequences for a breaker failure at these locations.	Hyde	$ 15,167,455	29.4%	$ 378,908	$ 344,462	$ 34,446	12/31/2006

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13	Regulatory	2	10	Osage Capacitor	Osage sub	Install 30MVAR capacitor, size for future 45MVAR, 138kV	criteia Violation, low voltage under contingency	Hardebeck	$ 15,717,455	30.4%	$ 550,000	$ 500,000	$ 50,000	12/1/2006
14	Regulatory	2	11	Woodring Capacitor	Woodring sub	Install 30MVAR capacitor, size for future 45MVAR, 138kV.	Criteria violation, low voltage under contingency	Hardebeck	$ 16,267,455	31.5%	$ 550,000	$ 500,000	$ 50,000	12/1/2006
15	Other	3	1	Carryover from previous year	Various - Carryover	Placeholder for budget Dollars to capture carryover each year.			$ 19,567,455	37.9%	$ 3,300,000	$ 3,000,000	$ 300,000	12/31/2006
16	Other	3	2	Conoco Generator Relocation to Muskogee	Muskogee Generating Station	Relocate one of the Conoco gas turbines to Muskogee Generating station and tie into Muskogee sub.	Power Supply requested units be relocated and tied into substation.	Hyde	$ 21,036,552	40.7%	$ 1,469,096	$ 1,335,542	$ 133,554	11/30/2006
17	Other	3	3	Conoco Generator Relocation to Sooner	Sooner Generating Station	Relocate one of the Conoco gas turbines and GSU to Sooner Generating station and tie into Sooner sub.	Power Supply requested units be relocated and tied into substation.	Hyde	$ 23,444,892	45.4%	$ 2,408,340	$ 2,189,400	$ 218,940	11/30/2006
18	Other	3	4	Edmond/OMPA Expenditures	In and Around Edmond	Purchse OMPA (White)Sorgum Mill line, 1.5 Mi.. Purchase OMPA Garber(Lake) line, 5.5 Mi.. Purchase various City of Edmond High Side Equipment - All purchases due to equipment being part of Integrated Transmission System	Transmission Policy of Owning and operaring all Integrated Transmission equipment on OG&E System	Hardebeck	$ 24,127,301	46.7%	$ 682,409	$ 682,409	$ -	12/1/2006
19	Other	3	5	OMPA- Mitch Sub	.5 Mi. N of NW 206 and Santa Fe	OMPA is installing a new substation in the Cottonwood Creek to Skyline 138kV transmission line. OMPA to construct substation and provide switches and terminals to OG&E. OG&E will design and construct line structures to enter and exit new sub	Required by operating agreement with OMPA due to load growth	Hardebeck	$ 24,292,301	47.0%	$ 165,000	$ 150,000	$ 15,000	2/14/2006
20	Other	3	6	Rossville Switching Station	Rossville, OK, near Warwick Tap	Install a new 3-breaker ring bus switching station to provide an interconnection near Warwick Tap. All work at the expense of GRDA, and reimburseable. NOTE: GRDA/KAMO has requested a tie to Memorial sub 138kV instead of this Rossville sub.	At the request of GRDA, install an interconnection to GRDA to support voltage on GRDA's 69kV system near Carney.	Hardebeck	$ 24,292,301	47.0%	$ -	$ -	$ -	
21	Other	3	7	OMPA Tecumseh	Tecumseh;West of G.Cooper, North of Squirrel Creek	Reroute transmission through sub. Install motorized switches and SCADA. Town of Tecumseh adding additional transformer.	additional load	Hardebeck	$ 24,457,301	47.4%	$ 165,000	$ 150,000	$ 15,000	5/31/2006
22	Other	3	8	Colbert Interconnect w/ WFEC	Colbert Sub	Remove switch #134, add breaker and change relays to provide an interconnection with WFEC. 12/16/04 SMH Engineering end of 2005. Install 2006	Load on radial line, OP S3-5	Hardebeck	$ 25,169,667	48.7%	$ 712,367	$ 647,606	$ 64,761	5/31/2006
23	Other	3	9	Entergy ANO Relays	Ft. Smith Ark.- Ft Smith sub- ANO line	Replace primary and back up relays to coordinate with Entergy change out	Entergy replacing relays at ANO end	Hardebeck	$ 25,407,625	49.2%	$ 237,958	$ 216,325	$ 21,633	11/30/2006
24	Other	3	10	Chitwood-Garber 138kV Line	NE OKC	Construct 6 miles of 138 kV Line from Garber(Edmond) to Chitwood, install a 138 kV line terminal & re-route Garber line to Arcadia, and do necessary R&C work at Arcadia and Cottonwood Creek to operate as a three terminal Line.	Generation dispatch schedule and Joint OMPA/Edmond/OG&E Planning Study.	Hardebeck	$ 29,852,197	57.8%	$ 4,444,572	$ 4,444,572	$ -	12/31/2006
25	Other	3	11	Quanex Service Improvement	Barling Sub	Replace motor operated switch at Barling with a breaker to improve service quality to Quanex, as a result of 1998 project that closed normally open switch at Mazzard.		Hyde	$ 30,209,697	58.5%	$ 357,500	$ 325,000	$ 32,500	12/31/2006

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26	Reliability	4	1	Stillwater - McElroy 138kV line	Stillwater - McElroy 138kV line	Rebuild and reconductor 1.91 miles of line to provide approx 2000 Amp rating. Replace all structures and reconductor with 2167AS79. Replace one breaker at Stillwater sub	Address flow-gate / dispatch concern of Transmission Scheduling. O.L. for Spr Crk-NW outage. McRoy-Kinzi OK	Hardebeck	$ 30,655,291	59.4%	$ 445,595	$ 405,086	$ 40,509	6/1/2005
27	Reliability	5	1	Glenwood-NE Enid Transmission Line	Enid, OK	In 2005, perform substation and SP&C work. In 2006, construct 8 miles of 138kV, 795MCM ACSR single pole transmission line between NE Enid Substation and Glenwood Substation pre-summer. Postponed due to budget constraints.	Approved Area Development Study K-5140.3	Hyde	$ 33,405,291	64.7%	$ 2,750,000	$ 2,500,000	$ 250,000	6/30/2006
28	Reliability	5	3	Transmission Break/Fix	Budget Placeholder for Transmission Break / fix				$ 35,605,291	68.9%	$ 2,200,000	$ 2,000,000	$ 200,000	12/31/2006
29	Reliability	5	2	Transmission Lines	Various - To be determined	Placeholder for Transmission defined Restoration Projects (Capitalized, large scale maintenance). Dan Morehead to summarized $$ and individual lines for this group project.	Replace deteriorated poles.		$ 40,005,291	77.5%	$ 4,400,000	$ 4,000,000	$ 400,000	12/31/2006
30	Reliability	5	4	Earlywine	Portland & SW 149th	Buy ROW for a transmission line from McClain to Earlywine and from the corner of SW134th & Penn to Earlywine. Earlywine will be developed for a 3rd 138kV feed to McClain.	McClain trips off due to only two 138kV feed to the plant.	Hyde	$ 41,169,091	79.7%	$ 1,163,800	$ 1,058,000	$ 105,800	12/31/2006
31	Reliability	5	6	Replace relays for Fiber Ring 1	Various Substations along OKC Ring 1	Replace relays along the corridor of the new fiber optic Ring 1. New microprocessor based relays will communicate over fiber optics loop, allowing unreliable carrier equipment to be retired.	Increase reliability, decrease maintenance and eliminate relay misoperations.	Milanowski	$ 42,819,091	82.9%	$ 1,650,000	$ 1,500,000	$ 150,000	12/29/2006
32	Reliability	5	7	On-line Substation Monitoring - 2006	Various Substations	Install On-line Substation Monitoring and Diagnostics at 3 large substations. Year 2 of 5 year program to install systems at 50 substations.	Recommendation from MSI Process Team. Project will reduce O&M and help detect and avoid catastrophic equipment failures.	Labude	$ 43,569,091	84.4%	$ 750,000	$ 750,000	$ -	12/29/2006
33	Reliability	5	8	Richards Sub to Piedmont Sub 138kV	NW OKC , Morgan Rd. and Wilshire to Richards sub	Install T-Line 138KV from Richards sub 3 Mi. N, and 2.0 W, to Piedmont sub . Amount of radial load at Piedmont exceeds OP S3-5, Paragragh 8. A 138kV loop is required. Budget $$ shared between ES and TP. (PL Crissup, 10/14/04)	Serve new Richards sub and alleviate violation of OP Practice at Piedmont sub. ($150k left in 2005 for R/W and T-line design.) PLC	Hardebeck	$ 45,792,631	88.7%	$ 2,223,540	$ 2,021,400	$ 202,140	5/31/2006
34	Reliability	5	9	Replace 9 obsolete GCX17 relay terminals	Various system	Replace 9 terminals containing the obsolete GCX17 relays within the OG&E system. There are 35 terminals remaining.	These relays are obsolete and have a failure rate of about 8%/Yr. They are worn out and there is a lack of spare parts.	Milanowski	$ 46,322,831	89.7%	$ 530,200	$ 482,000	$ 48,200	12/31/2006
35	Reliability	5	10	Morrison Tap - Stillwater 138kV	Stillwater Sub	Replace 1200 Amp switch at Morrison Tap, and 1200 Amp Breaker, wave trap and CT at Stillwater. Reconductor 10.01 miles of 795SD25 with composite core conductor to provide 2000 amp rating of circuit	Alliviate SPP Flowgate on Morrison Tap - Stillwater	Hardebeck	$ 47,972,831	92.9%	$ 1,650,000	$ 1,500,000	$ 150,000	6/1/2006
36	Reliability	5	11	Replace GE type DLP relays	Various	Replace GE type DLP relays system - wide	Obsolete and no longer supported by the manufacturer	Milanowski	$ 48,284,131	93.5%	$ 311,300	$ 283,000	$ 28,300	12/31/2006

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37	Reliability	5	12	Replace obsolete EHV primary relays	Various	Replace primary relays in all the EHV terminals. Replace 27 terminals, nine per year over three years.	Obsolete, poor condition, no spare parts	Milanowski	$ 49,737,451	96.3%	$ 1,453,320	$ 1,321,200	$ 132,120	12/31/2006
38	Reliability	5	13	Replace PCBs 107 & 110 at Bristow	Bristow Substation	Replace 138kV Power Circuit Breakers for Line 1/61, Company Numbers 1498 & 1499 at Bristow Substation. The 1955 vintage breakers are in poor condition and experience frequent problems such as air / oil leaks, compressor failures, bushing failures, etc.		Labude	$ 49,913,451	96.7%	$ 176,000	$ 160,000	$ 16,000	12/29/2006
39	Reliability	5	14	Replace PCB 102 at Woodward District Sub	Woodward District Substation	Replace PCB 102, Co.No.1497 that is in poor condition.	Recommendation from Work Management - Approx. $14,000 spend on maintnenance & repairs in last 5 years.	Labude	$ 50,001,451	96.8%	$ 88,000	$ 80,000	$ 8,000	12/29/2006
40	Reliability	5	14	Callery to Muskogee	Muskogee	Replace OH shield wire with OPGW and add 2505 relays at Calery and Muskogee, breaker 9, to trip Georgia Pacific , breaker 1606, so GP generation can be isolated a line can be re-energized as necesarry	currently a phone line is used for communications and is out of service continuousley. Causes outages	Hardebeck	$ 50,166,451	97.1%	$ 165,000	$ 150,000	$ 15,000	6/1/2006
41	Reliability	5	15	Install Fault Recorder at Woodring Substation	Woodring Substation	Install a fault recorder at the Woodring EHV Substation near Enid.	Recent relay misoperation investigations have been hampered by the lack of fault recording equipment at Woodring.	Labude	$ 50,254,451	97.3%	$ 88,000	$ 80,000	$ 8,000	12/29/2006
42	Reliability	5	16	Cushing Tap Substation	Cushing, Oklahoma	Construct 1.5 mile of 69kV, 477MCM ACR line from Shell Tap to Cushing Tap Substation. Install new 69kV breaker at Cushing Tap in order to terminate 4 pumping station loads directly on the 69kV bus,	Low voltage for loss of Shell Tap to Cushing Tap section. C	Estel	$ 51,518,600	99.8%	$ 1,264,149	$ 1,149,226	$ 114,923	12/31/2006
43	Reliability	5	17	Install Back-up Lockout Relay at So4th St Sub	South 4th Street Substation	Intall back-up lock-out relay (86T1B) in the 138-69kV Transformer 1 backup differential relaying circuits.This LOR should duplicate the functions of the primary lockout relay per OG&E Design Guide R3203.011.	Failure of the existing lock-out relay will disable both primary and backup protection of 100MVA transformer.	Labude	$ 51,540,600	99.8%	$ 22,000	$ 20,000	$ 2,000	12/29/2006
44	Reliability	5	18	Install Watt-Var Meters on a per-bank basis.	Various Substations - Year 2	There are approximately 63 locations where two or more substation transformers are totalized into one watt-var meter. At these locations, split the metering into one watt-var meter per bank. Additional P.Ts will be required at most locations.	Project is required to better utilize Watt, Var and power factor information to aid in analyzing loading, placement of capacitors, diagnosing LTC problems and customer outages.	Estel	$ 51,643,032	100.0%	$ 102,432	$ 93,120	$ 9,312	12/31/2006
45	Reliability	5	19	Install breakers at NE 10th St. Sub	NE10th Street	Install 2 138kV Breakers at NE 10th Street Substation and tie Glendale Substation into the 138kV NE10th - Tinker 4 line. Replace relays at Tinker 4, HLS and Reno to accommodate the new transmission configuration.	Glendale Substation operating radial in violation of OP S3-5.	Hyde	$ 51,643,032	100.0%	$ -	$ -	$ -	12/31/2006
46	Reliability	5	20	Hennessey Switch	Hennessey, Oklahoma	Replace Joslyn whip units on switch 133 with Turner load break interrupter units.	Project will allow operators to split the 40 to 70 MW flows routinely seen on the 138kV line to Waukomis.	Estel	$ 51,643,032	100.0%	$ -	$ -	$ -	6/1/2006
47	Reliability	5	21	Tibbens Road	Sapulpa, OK	Convert Tibbens 69kV to 138kV using the existing site for the new 138kV sub. Remove the old 69kV sub and build a new 138kV substation. Install one 20MVA 138-12.5kV xfmer. Construction should start in the fall of 2005 and end in the spring of 2006.	Loading on the 69kV system creates contingency problems.	Hyde	$ 51,643,032	100.0%	$ -	$ -	$ -	3/31/2006
								Total:	$ 51,643,032		**$ 51,643,032**	**$ 47,505,209**	**$ 4,137,823**	