

<u>Investments</u>	Lines/ Feeders	Distb Ftx1000	2002 \$1,000	PV		CUM NPV \$1,000
				Tax	Benefit \$1,000	
Install 138kV breakers at TSS111 and TSS144			1,240		258	(1,013)
Install breakers and bus at ESS's: St Charles & Batavia			2,080		426	(1,648)
Install transmission line to serve ESS's		78.1	16,170		3,361	(13,210)
instl DC2 to rlv 56-12			435		89	(345)
dist line work at DC		0.6	20		4	(16)
Annual Tsm SS O&M			0			0
Annual 138 kV Line O&M			22			(12)
Annual Dist SS O&M			33			(18)
Annual Dist Line O&M			0			(0)
2004 Total			20,000			(16,262) (\$16,262)
Install 2nd tr at DCW22 to rlv 56-12			280		55	(212)
instl DC1 to rlv 569-12			535		105	(405)
instl DC5 to rlv DCW19			535		105	(405)
Dist Line work at DC's		4.7	160		31	(121)
Annual Tsm SS O&M			0			0
Annual 138 kV Line O&M			22			(12)
Annual Dist SS O&M			131			(69)
Annual Dist Line O&M			2			(1)
2005 Total			1,665			(1,225) (17,486)
instl DC3 to rlv 56-12			435		81	(315)
dist line work at DC		1.6	50		9	(36)
Annual Tsm SS O&M			0			0
Annual 138 kV Line O&M			22			(11)
Annual Dist SS O&M			164			(82)
Annual Dist Line O&M			2			(1)
2006 Total			674			(445) (17,931)
Install 50MVAR 138kV cap at St Charles			710		127	(491)
install DCW29 tr3 to rlv DCW29-1 and DCW115-2			280		50	(194)
Dist Line work at DC's		1.8	100		18	(69)
Switch DCW39 to L13154 to rlv 577-34			10		2	(7)
Install DC7 to rlv DCW50-2			435		78	(301)
Annual Tsm SS O&M			0			0
Annual 138 kV Line O&M			22			(11)
Annual Dist SS O&M			230			(110)
Annual Dist Line O&M			3			(1)
2007 Total			1,790			(1,183) (19,114)
Instl DC6 to rlv DCW50-1&2 and DCW16-1&2			435		74	(287)
dist line work at DC		1.6	70		12	(46)
Annual Tsm SS O&M			0			0
Annual 138 kV Line O&M			22			(10)
Annual Dist SS O&M			263			(120)
Annual Dist Line O&M			4			(2)
2008 Total			793			(465) (19,579)
instl DC4 to rlv 56-12			435		71	(274)
dist line work at DC		0.6	20		3	(13)
Install 3.6 MVAR 34 kV line cap on L13154 at W33			50		8	(32)
extend L13159 to pick up remaining load on L7962 to rlv 79-34		11.6	370		60	(233)
cut DC3 from L5639 to L5637 to rlv L5639			10		2	(6)
cut DC7 from L5635 to L5637 to rlv L5635			10		2	(6)

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138kV

install ALRS and switch DCW22 from L5640 to L11162 to rlv 56-34		55	9	(35)	
extend L5637 across river and cut DC3 to L5637 to rlv L5639	12.1	745	121	(470)	
Annual Tsm SS O&M		0		0	
Annual 138 kV Line O&M		22		(10)	
Annual Dist SS O&M		295		(129)	
Annual Dist Line O&M		12		(5)	
2009 Total		2,025		(1,214)	(20,793)
rlv 569-12 to DC7	0.8	60	9	(36)	
cut DCW102 to L13156 for L5635 rlf	0.2	10	2	(6)	
Annual Tsm SS O&M		0		0	
Annual 138 kV Line O&M		22		(9)	
Annual Dist SS O&M		295		(123)	
Annual Dist Line O&M		13		(5)	
2010 Total		400		(180)	(20,973)
Install 35MVAR 138kV cap at Batavia		645	96	(372)	
Annual Tsm SS O&M		0		0	
Annual 138 kV Line O&M		22		(9)	
Annual Dist SS O&M		295		(118)	
Annual Dist Line O&M		13		(5)	
2011 Total		975		(503)	(21,476)
new feeder from 569-12 to rlv 56-12	13.9	880	125	(484)	
repl 20 w/ 40 @ 569-12 to rlv 569-12		1,000	144	(567)	
Annual Tsm SS O&M		10		(4)	
Annual 138 kV Line O&M		22		(8)	
Annual Dist SS O&M		295		(112)	
Annual Dist Line O&M		18		(7)	
2012 Total		2,225		(1,183)	(22,659)
Annual Tsm SS O&M		10		(4)	
Annual 138 kV Line O&M		22		(8)	
Annual Dist SS O&M		295		(107)	
Annual Dist Line O&M		18		(6)	
2013 Total		345		(126)	(22,785)

Total NPV (22,785)

<u>Investments</u>	Lines/ Feeders	Distb Ftx1000	2002 \$1,000	PV		NPV \$1,000	CUM NPV \$1,000
				Tax	Benefit \$1,000		
install new TDC569-34 w/ 1 60 MVA to rlv 56-34 and L13156			1,940		403	(1,585)	
install L56902 and cut W485 and W553 to new L56902 to rlv 56-34 and L13156	1	33.7	2,055		421	(1,628)	
instl DC2 to rlv 56-12			435		89	(345)	
sw DCW102 from L5635 to L5639 to rlv L5635			10			(9)	
dist line work at DC		0.6	20		4	(16)	
replace 40MVA w/ 60 MVA at 577-34 to relieve 577-34			1,100	228.6293		(899)	
Install 3.6 MVAR 34 kV line cap at W511 on L5635			50	10.2337		(40)	
Install 1.8 MVAR 34 kV line cap at W553 on L56902			35	7.1636		(28)	
extend L13159 to pick up W509 to rlv 111-34		8.6	275	56.2854		(218)	
Annual Tsm SS O&M			40			(22)	
Annual 138 kV Line O&M			0			0	
Annual Dist SS O&M			33			(18)	
Annual Dist Line O&M			15			(8)	
		2004 Total	6,008			(4,815)	(4,815)
Install 2nd 60 MVA at 569-34			2,280	452.7855		(1,780)	
Install 2nd tr at DCW22 to rlv 56-12			280	54.7570		(212)	
Install L56901 and cut DCW50 & 51 to new L56901 to rlv 56-34	1	20.9	1,350	264.0068		(1,022)	
Extend L5633 to W520 for new point of service to Batavia to rlv		19.2	610	119.2920		(462)	
sw Hoffer & others frm L7969 to L57739 to rlv 79-34			60			(48)	
install DC1 to rlv 569-12			535	105		(405)	
install DC5 to rlv DCW19			535	105		(405)	
Extend 34kV line (L13156) to Sub9 Bus 1		2.7	85	17		(64)	
Dist Line work at DC's		4.7	160	31		(121)	
Annual Tsm SS O&M			70			(37)	
Annual 138 kV Line O&M			0			0	
Annual Dist SS O&M			131			(69)	
Annual Dist Line O&M			33			(17)	
		2005 Total	6,129			(4,642)	(9,456)
install L56904, pick up W568 & tap to Prairie 2 and cut W484 to L5639 to rlv OL on L5635	1	40.3	1,865	348		(1,349)	
install DC3 to rlv 56-12			435	81		(315)	
Install 3.6 MVAR 34 kV line cap on L56904			50	9		(36)	
Dist Line work at DC		1.6	50	9		(36)	
Annual Tsm SS O&M			70			(35)	
Annual 138 kV Line O&M			0			0	
Annual Dist SS O&M			164			(82)	
Annual Dist Line O&M			48			(24)	
		2006 Total	2,682			(1,877)	(11,333)
extend L56904 and pick up W484 to rlv 56-34		1.3	50	9		(35)	
install 3rd 60 MVA at 111-34 to reliev 111-34			2,000	363		(1,425)	
install 4th 40 MVA at 79-34 to rlv 79-34			2,500	453		(1,781)	
install DC7 to rlv DCW50-1			435	77.6618		(301)	
install DCW29 tr3 to rlv DCW29-1 and DCW115-2			280	49.9892		(194)	
Install 3.6 MVAR 34 kV line cap on L56904			50	8.9266		(35)	
Dist Line work at DC's		1.8	100	17.8533		(69)	
Annual Tsm SS O&M			120			(57)	
Annual 138 kV Line O&M			0			0	
Annual Dist SS O&M			230			(110)	
Annual Dist Line O&M			49			(23)	
		2007 Total	5,813			(4,029)	(15,363)
install L111XX pick up DCW22-1&2 to rlv 56-34	1	2.0	65	11		(43)	
rlv DCW50-2, DCW16-1&2 to DC7		1.5	110	19		(73)	
Install 3.6 MVAR 34 kV line cap at W509 on L111YY			50	9		(33)	
Install L111YY to W509 to rlv 131-34	1	19.8	630	107		(416)	
Annual Tsm SS O&M			120			(55)	

Fox Valley Study Area		34kV					
Annual 138 kV Line O&M				0		0	
Annual Dist SS O&M				230		(105)	
Annual Dist Line O&M				57		(26)	
			2008 Total	1,262		(750)	(16,113)
install new TDC 584 Orchard Rd with first transformer (1-40MVA)				4,460		738	(2,901)
Install 3 new 584 fdrs to rlv 56-12, 56-34 (DC7), 569-34 (DCW50-1)	3	12.3		1,500		244	(947)
Install 3.6 MVAR 34 kV line cap on L7962				50		8,1494	(32)
Install new L79XX to rlv L57736 (cut DCW33 to L79XX, cut DCW39 to L7962)	1	17.2		550		89,6433	(347)
Annual Tsm SS O&M				140			(61)
Annual 138 kV Line O&M				0			0
Annual Dist SS O&M				230			(100)
Annual Dist Line O&M				68			(30)
			2009 Total	6997		-4417	(20,530)
cut DCW29-1 to L111YY to rlv L11167A				10			(5)
Install 3.6 MVAR 34 kV line cap on L111YY				50		7,7865	(30)
Install one new 584 fdr to rlv 569-12	1	11.3		570		88,7664	(344)
Annual Tsm SS O&M				140			(58)
Annual 138 kV Line O&M				0			0
Annual Dist SS O&M				230			(96)
Annual Dist Line O&M				72			(30)
			2010 Total	1,071		(563)	(21,094)
Install 2nd transformer at TDC584				1,600		241,7622	(950)
Install 2 new 584 fdrs to rlv 56-12, 56-34 (DC3), 569-34 (DCW50)	2	9.2		440		65,4704	(253)
Annual Tsm SS O&M				160			(64)
Annual 138 kV Line O&M				0			0
Annual Dist SS O&M				230			(91)
Annual Dist Line O&M				75			(30)
			2011 Total	2,505		(1,389)	(22,483)
Install 138kV breakers at TSS111				850		123	(482)
Acquire ROW and install transmission line (future double ckt) to serve Elburn TSS				29.0	8,660	1250	(4,914)
Install new Elburn TSS (1-60MVA) to rlv 131-34 (via 56-34) and 569-34				4,940		713	(2,803)
cut W461 to L5639 to rlv OL on L13153		11.9		1,330		189	(732)
Install 3.6 MVAR 34 kV line cap on Elburn TSS Line#1				50		7	(28)
Install 3.6 MVAR 34 kV line cap on L5639				50		7	(28)
Install one new Elburn TSS line to rlv 56-34, second new TSS line to rlv 569-34	2	26.4		2,940		418	(1,618)
Annual Tsm SS O&M				190			-72
Annual 138 kV Line O&M				8			-3
Annual Dist SS O&M				230			(87)
Annual Dist Line O&M				89			(34)
			2012 Total	19337		-10802	(33,284)
Install 3.6 MVAR 34 kV line cap on Elburn TSS Line #2				50.0		7	-26
Extend L13159 into W509 for new point of svce to Batavia	9			210.0		29	-110
Annual Tsm SS O&M				190.0			-69
Annual 138 kV Line O&M				8.2			-3
Annual Dist SS O&M				229.7			-84
Annual Dist Line O&M				92.0			-33
			2013 Total	780.0		-326	(33,610)
						Total NPV	(33,610)

Fox Valley Area Study

Economic Factors

Base year	2002
Escalation	1.0300
Discount rate	7.80%
Return on Equity	12.00%
Return on Debt	7.50%
Effective Income Tax Rate	40.00%
Total Return	9.50%

Present Value of Carrying Charges

	<u>Useful Life</u>	<u>abar(life)</u>	<u>abar(life)</u>
Transmission substations	50	19.2578	19.2578
Transmission lines	55	19.7060	19.7060
Distribution substations	40	17.9883	17.9883
Distribution lines	35	17.1008	17.1008

	<u>P(inf)</u>	<u>a(inf)</u>
Land (non-depreciable)	0.1300	12.8205

Operation and Maintenance Costs

	<u>\$1000/mi</u>
Distribution lines	1.9
138 kV lines, overhead	1.5

	<u>\$1000/MVA</u>
Distribution substations	3.5
Transmission substations	0.5

Tsm % Total Indirect Cost	12.25%
Dist % Total Indirect Cost	9.22%

		<u>Other Indirects(% Total-AFUDC)</u>	
Tsm AFUDC	6.65%	Tsm	5.60%
Dist AFUDC	0.29%	Dist	8.93%

PVTWO, 20 yr	0.51346
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Expenses (1-t)	0.60000
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