

FOR BOARD ACTION

Agenda Item # 4.a.

Meeting Date:

2/24/09

SUBJECT: CONSIDERATION OF BIDS
ELECTRIC DISTRIBUTION TRANSFORMERS 2009 - 2013

PREPARED BY: Steven J. Cook, P.E.
Senior Electrical Engineer

ITEM DESCRIPTION:

On February 10, 2009, four bidders submitted five bids to supply all of 47 types of electrical distribution transformers for the remainder of 2009 through the end of 2013.

Prior to 2003 RPU went out for bids on an annual basis for the projected requirements of distribution transformers for that calendar year. Each year RPU would take one or two deliveries of each size and type of transformer that we projected a demand for that year. This resulted in RPU having large amounts of not yet required transformers in stock for part of the year and in many cases RPU would be short on high demand units by the end of the year. In 2003 RPU executed a multiyear contract for the supply of all of our distribution transformers from one supplier. Through this process RPU was able to reserve production space with the transformer manufacturer and order transformers on an as needed basis throughout the year. This has resulted in an increase in RPU's turns ratio of transformers in inventory and a reduction in the dollars of stock in inventory. Because RPU had reserved capacity under our purchase contract we were also able to get much better lead times for units during 2006-2007. During this time period of high growth and material price instability quoted transformer lead times, for other utilities, on large distribution units were approximately 50 weeks. Since RPU had a long term contract with capacity planning our lead times were less than half of that usually. Under the terms of the past long term contract RPU feels that it was sheltered from some of the price escalations in the recent past.

RPU has chosen this time to go out for a new contract because our existing contract has expired, new Department of Energy requirements for transformers will start in 2010, and we felt that with the market conditions were conducive for competitive bidding.

The contract allows for transformer purchase prices to be escalated or de-escalated based upon specified indices. As part of the bid the bidder provided the percentage of transformer costs which are affected by each of the seven indices and the escalation/de-escalation factor will be calculated based on the weighted shift in the indices value.

This is a long term purchase contract and issues unforeseen by either party may occur during the contracts anticipated life. Either party may cancel this contract with 90 days written notice. RPU would be responsible for accepting delivery and paying for all units released for construction to the end of the 90 days and the bidder is responsible for delivering all units released prior to the end of the 90 day period.


General Manager

2/20/09
Date

ROCHESTER PUBLIC UTILITIES

FOR BOARD ACTION

Agenda Item # 4.a.

Meeting Date:

2/24/09

FOR CAPITAL PURCHASES/BIDS/MAJOR PROJECTS:

Electric Distribution Transformers are budgeted each year and the majority of the units are used for new service installations and the remainder used to replace damaged or failed units.

The transformers were evaluated based on the present value of the total owning costs of a given number of units. A dollar value is assigned to the losses in order to determine the total owning costs of each unit. Once the evaluated total owning cost (TOC) of the units has been determined RPU evaluated all bids that have a TOC within five percent of the lowest TOC bid and the one with the lowest evaluated purchase price who meets are specification is recommended.

BID SUMMARY

Bidder	Evaluated Purchase Values (pre tax)	Evaluated Total Owning Cost	Percentage of Low Evaluated TOC
RESCO	\$603,501.61	\$1,159,460.88	100%
WESCO	\$521,651.00	\$1,218,528.29	105%
BORDER STATES ELECTRIC	\$620,061.00	\$1,243,150.37	107%
BORDER STATES ELECTRIC	\$579,459.00	\$1,292,714.96	111%
IRBY	\$686,634.00	\$1,306,975.43	113%

The lowest evaluated TOC bid was from RESCO. The only other bid within 5% of TOC was from WESCO. The evaluated (pre tax) purchase price of the WESCO bid is \$81,850.61 lower than the bid from RESCO.

UTILITY BOARD ACTION REQUESTED:

The Board is requested to approve and recommend that the City Council approve a multi-year purchase contract be awarded to WESCO for supplying all of RPU's electric distribution transformers from 2009 – 2013 per the bid specifications and final approval of the City Attorney, and subject to the annual approval of the RPU budget by Board and Council.

General Manager

Date

ROCHESTER PUBLIC UTILITIES

2009 ELECTRIC DISTRIBUTION TRANSFORMER EVALUATION

RESCO / ERMCO

Unit ID	TRANSFORMER DESCRIPTION	2009 Evaluated Quantity	2009 Unit Purchase Price (\$)	2009 Extended Estimated Purchase Price	Load Losses (KW)	Value of Load Losses (\$/KW)	No Load Losses (KW)	Value of No Load Losses (\$/KW)	Life Cycle Value 2009 Purchases	Extended 2009 Life Cycle Value
10677	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$1,171.55	\$1,171.55	0.056	\$3,317	0.021	\$6,736	\$1,478,919	\$1,478,920
10678	Trans. PM, 120, 50KVA, 13.8KV, 240/120	2	\$1,369.82	\$2,739.64	0.117	\$3,317	0.041	\$8,736	\$2,121,806	\$2,121,806
10679	Trans. PM, 120, 50KVA, 13.8KV, 240/120	14	\$1,524.27	\$21,339.78	0.206	\$3,317	0.084	\$8,736	\$2,678,162	\$2,678,162
10680	Trans. PM, 120, 50KVA, 13.8KV, 240/120	28	\$1,849.48	\$51,585.44	0.276	\$3,317	0.085	\$8,736	\$3,337,787	\$3,337,787
10681	Trans. PM, 120, 50KVA, 13.8KV, 240/120	12	\$1,511.95	\$18,143.40	0.419	\$3,317	0.086	\$8,736	\$3,182,233	\$3,182,233
10682	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$2,714.85	\$2,714.85	0.478	\$3,317	0.157	\$8,736	\$3,361,865	\$3,361,865
10683	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$3,318.81	\$0.00	0.568	\$3,317	0.165	\$8,736	\$0.00	\$0.00
10684	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$4,413.04	\$4,413.04	1.081	\$3,317	0.304	\$8,736	\$10,413,913	\$10,413,913
10685	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$1,422.73	\$1,422.73	0.140	\$3,317	0.044	\$8,736	\$2,163,824	\$2,163,824
10686	Trans. PM, 120, 50KVA, 13.8KV, 240/120	2	\$1,369.82	\$2,739.64	0.280	\$3,317	0.135	\$8,736	\$3,124,125	\$3,124,125
10687	Trans. PM, 120, 50KVA, 13.8KV, 240/120	6	\$5,788.31	\$34,729.86	0.818	\$3,317	0.185	\$8,736	\$11,241,931	\$11,241,931
10688	Trans. PM, 120, 50KVA, 13.8KV, 240/120	7	\$7,524.23	\$52,669.61	0.844	\$3,317	0.255	\$8,736	\$12,482,224	\$12,482,224
10689	Trans. PM, 120, 50KVA, 13.8KV, 240/120	7	\$7,963.84	\$55,746.88	1.246	\$3,317	0.265	\$8,736	\$13,561,235	\$13,561,235
10690	Trans. PM, 120, 50KVA, 13.8KV, 240/120	4	\$8,611.83	\$34,447.32	1.363	\$3,317	0.446	\$8,736	\$17,237,821	\$17,237,821
10691	Trans. PM, 120, 50KVA, 13.8KV, 240/120	4	\$10,658.95	\$42,635.80	1.679	\$3,317	0.554	\$8,736	\$20,184,881	\$20,184,881
10692	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$13,863.34	\$13,863.34	3.397	\$3,317	0.650	\$8,736	\$30,000.22	\$30,000.22
10693	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$18,703.45	\$0.00	5.324	\$3,317	0.945	\$8,736	\$0.00	\$0.00
10694	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$20,277.82	\$0.00	7.863	\$3,317	1.142	\$8,736	\$0.00	\$0.00
10695	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$5,514.84	\$0.00	0.968	\$3,317	0.187	\$8,736	\$0.00	\$0.00
10696	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$7,463.84	\$0.00	0.787	\$3,317	0.249	\$8,736	\$0.00	\$0.00
10697	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$9,476.57	\$0.00	1.365	\$3,317	0.319	\$8,736	\$0.00	\$0.00
10698	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$10,766.02	\$0.00	1.241	\$3,317	0.409	\$8,736	\$0.00	\$0.00
10699	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$14,188.85	\$14,188.85	2.463	\$3,317	0.751	\$8,736	\$18,902.66	\$18,902.66
10700	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$19,129.83	\$19,129.83	4.108	\$3,317	0.833	\$8,736	\$27,482,002	\$27,482,002
10701	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$20,860.56	\$20,860.56	5.121	\$3,317	1.339	\$8,736	\$38,036,612	\$38,036,612
10702	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$28,419.52	\$28,419.52	7.823	\$3,317	1.577	\$8,736	\$48,980.36	\$48,980.36
10703	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$37,211.11	\$0.00	9.086	\$3,317	2.062	\$8,736	\$84,332.42	\$84,332.42
10704	Trans. PM, 120, 50KVA, 13.8KV, 240/120	1	\$38,984.86	\$38,984.86	11.763	\$3,317	2.660	\$8,736	\$85,638.59	\$85,638.59
10705	Trans. PM, 120, 50KVA, 13.8KV, 240/120	50	\$7,088.74	\$354,437.00	0.089	\$3,317	0.038	\$6,736	\$1,540,032	\$1,540,032
10706	Trans. PM, 120, 50KVA, 13.8KV, 240/120	25	\$9,465.67	\$236,641.75	0.120	\$3,317	0.044	\$6,736	\$1,740,186	\$1,740,186
10707	Trans. PM, 120, 50KVA, 13.8KV, 240/120	25	\$1,141.95	\$28,548.75	0.206	\$3,317	0.084	\$6,736	\$2,268,548	\$2,268,548
10708	Trans. PM, 120, 50KVA, 13.8KV, 240/120	25	\$1,405.21	\$35,130.25	0.242	\$3,317	0.105	\$6,736	\$3,015,515	\$3,015,515
10709	Trans. PM, 120, 50KVA, 13.8KV, 240/120	8	\$1,578.54	\$12,628.32	0.360	\$3,317	0.102	\$6,736	\$3,585,542	\$3,585,542
10710	Trans. PM, 120, 50KVA, 13.8KV, 240/120	10	\$2,176.52	\$21,765.20	0.510	\$3,317	0.168	\$6,736	\$4,068,004	\$4,068,004
10711	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$2,884.42	\$0.00	0.661	\$3,317	0.205	\$6,736	\$0.00	\$0.00
10712	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$4,431.68	\$0.00	1.040	\$3,317	0.270	\$6,736	\$0.00	\$0.00
10713	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$6,665.61	\$0.00	1.324	\$3,317	0.344	\$6,736	\$0.00	\$0.00
10714	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,203.34	\$0.00	0.170	\$3,317	0.044	\$6,736	\$0.00	\$0.00
10715	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,460.91	\$0.00	0.206	\$3,317	0.068	\$6,736	\$0.00	\$0.00
10716	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,675.02	\$0.00	0.264	\$3,317	0.088	\$6,736	\$0.00	\$0.00
10717	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$2,322.22	\$0.00	0.375	\$3,317	0.121	\$6,736	\$0.00	\$0.00
10718	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$2,721.41	\$0.00	0.509	\$3,317	0.168	\$6,736	\$0.00	\$0.00
10719	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,213.25	\$0.00	0.189	\$3,317	0.062	\$6,736	\$0.00	\$0.00
10720	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,538.82	\$0.00	0.231	\$3,317	0.087	\$6,736	\$0.00	\$0.00
10721	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$1,808.12	\$0.00	0.396	\$3,317	0.103	\$6,736	\$0.00	\$0.00
10722	Trans. PM, 120, 50KVA, 13.8KV, 240/120	0	\$2,308.92	\$0.00	0.582	\$3,317	0.151	\$6,736	\$0.00	\$0.00
TOTAL				\$603,801.61					\$1,169,480.88	\$1,169,480.88

WESCO: ABB

www

2009 ELECTRIC DISTRIBUTION TRANSFORMER EVALUATION

BSE / COOPER #1

Unit ID	TRANSFORMER DESCRIPTION	2009 Evaluated Quantity	2009 Unit Purchase Price (\$)	2009 Extended Estimated Purchase Price	Load Losses (KW)	Value of Load Losses (\$/KW)	No Load Losses (KW)	Value of No Load Losses (\$/KW)	Life Cycle Value 2009 Purchases	Extended 2009 Life Cycle Value
10275	TRANS. PH. 1PH. 100KVA 13.8KV 240T20	1	\$1,632.00	\$1,632.00	0.106	\$3,317	0.065	\$6,739	\$2,332.84	\$6,122.85
10276	TRANS. PH. 1PH. 18KVA 13.8KV 240T20	4	\$1,632.00	\$6,528.00	0.156	\$3,317	0.065	\$6,739	\$2,447.780	\$9,781.12
10279	TRANS. PH. 1PH. 25KVA 13.8KV 240T20	14	\$1,741.00	\$24,374.00	0.225	\$3,317	0.076	\$6,739	\$3,012.987	\$48,181.54
10280	TRANS. PH. 1PH. 37.5KVA 13.8KV 240T20	1	\$1,671.00	\$1,671.00	0.335	\$3,317	0.063	\$6,739	\$3,713.922	\$7,427.84
10281	TRANS. PH. 1PH. 50KVA 13.8KV 240T20	12	\$2,177.00	\$26,124.00	0.445	\$3,317	0.114	\$6,739	\$4,416.311	\$52,995.73
10282	TRANS. PH. 1PH. 75KVA 13.8KV 240T20	1	\$2,563.00	\$2,563.00	0.697	\$3,317	0.169	\$6,739	\$5,610.011	\$6,610.01
10283	TRANS. PH. 1PH. 100KVA 13.8KV 240T20	0	\$3,070.00	\$0.00	0.809	\$3,317	0.169	\$6,739	\$7,017.173	\$0.00
10284	TRANS. PH. 1PH. 121KVA 13.8KV 240T20	1	\$4,719.00	\$4,719.00	1.066	\$3,317	0.205	\$6,739	\$10,309.267	\$10,309.27
10285	TRANS. PH. 1PH. 150KVA 13.8KV 480T240	1	\$1,632.00	\$1,632.00	0.160	\$3,317	0.065	\$6,739	\$2,503.185	\$2,503.20
10238	TRANS. PH. 3PH. 45KVA 13.8KV 208T120	2	\$5,559.00	\$11,118.00	0.355	\$3,317	0.156	\$6,739	\$5,840.205	\$17,590.41
10239	TRANS. PH. 3PH. 75KVA 13.8KV 208T120	6	\$7,193.00	\$43,158.00	0.959	\$3,317	0.208	\$6,739	\$10,485.045	\$62,892.51
10240	TRANS. PH. 3PH. 112.5KVA 13.8KV 208T120	1	\$7,693.00	\$7,693.00	0.903	\$3,317	0.276	\$6,739	\$12,538.215	\$12,538.22
10241	TRANS. PH. 3PH. 150KVA 13.8KV 208T120	7	\$8,119.00	\$56,833.00	1.210	\$3,317	0.353	\$6,739	\$14,611.631	\$101,890.05
10242	TRANS. PH. 3PH. 225KVA 13.8KV 208T120	4	\$9,028.00	\$36,112.00	1.406	\$3,317	0.503	\$6,739	\$17,694.053	\$71,862.21
10243	TRANS. PH. 3PH. 300KVA 13.8KV 208T120	4	\$10,897.00	\$43,588.00	2.066	\$3,317	0.978	\$6,739	\$21,745.015	\$88,990.05
10244	TRANS. PH. 3PH. 400KVA 13.8KV 208T120	0	\$15,257.00	\$0.00	3.406	\$3,317	0.840	\$6,739	\$32,282.579	\$32,282.58
10245	TRANS. PH. 3PH. 500KVA 13.8KV 208T120	0	\$18,480.00	\$0.00	5.740	\$3,317	0.978	\$6,739	\$44,818.741	\$0.00
10246	TRANS. PH. 3PH. 750KVA 13.8KV 480T177	0	\$18,480.00	\$0.00	7.243	\$3,317	1.303	\$6,739	\$68,038.629	\$0.00
10247	TRANS. PH. 3PH. 112.5KVA 13.8KV 480T177	0	\$7,927.00	\$0.00	0.971	\$3,317	0.207	\$6,739	\$10,485.045	\$0.00
10248	TRANS. PH. 3PH. 150KVA 13.8KV 480T177	0	\$7,927.00	\$0.00	0.758	\$3,317	0.261	\$6,739	\$12,538.215	\$0.00
10249	TRANS. PH. 3PH. 225KVA 13.8KV 480T177	0	\$9,366.00	\$0.00	1.005	\$3,317	0.340	\$6,739	\$13,882.848	\$0.00
10250	TRANS. PH. 3PH. 300KVA 13.8KV 480T177	0	\$10,897.00	\$0.00	1.478	\$3,317	0.654	\$6,739	\$17,321.768	\$0.00
10251	TRANS. PH. 3PH. 400KVA 13.8KV 480T177	1	\$14,536.00	\$14,536.00	1.290	\$3,317	0.999	\$6,739	\$20,664.971	\$20,664.97
10252	TRANS. PH. 3PH. 500KVA 13.8KV 480T177	1	\$19,565.00	\$19,565.00	2.862	\$3,317	0.953	\$6,739	\$30,075.151	\$30,075.15
10253	TRANS. PH. 3PH. 750KVA 13.8KV 480T177	1	\$23,898.00	\$23,898.00	4.590	\$3,317	0.957	\$6,739	\$41,696.083	\$41,696.08
10254	TRANS. PH. 3PH. 1000KVA 13.8KV 480T177	0	\$30,392.00	\$0.00	5.746	\$3,317	1.248	\$6,739	\$51,397.693	\$51,397.69
10255	TRANS. PH. 3PH. 1500KVA 13.8KV 480T177	0	\$37,135.00	\$0.00	9.753	\$3,317	1.815	\$6,739	\$71,528.186	\$71,528.19
10256	TRANS. PH. 3PH. 2500KVA 13.8KV 480T177	1	\$47,026.00	\$47,026.00	11.778	\$3,317	2.149	\$6,739	\$90,701.727	\$90,701.73
10257	TRANS. PH. 3PH. 3500KVA 13.8KV 480T177	1	\$47,026.00	\$47,026.00	14.066	\$3,317	2.709	\$6,739	\$111,723.114	\$111,723.11
10258	TRANS. CH. 1PH. 100KVA 13.8KV 120T240	50	\$369.00	\$18,450.00	0.114	\$3,317	0.040	\$6,739	\$1,335.899	\$68,784.90
10259	TRANS. CH. 1PH. 150KVA 13.8KV 120T240	25	\$763.00	\$19,075.00	0.207	\$3,317	0.041	\$6,739	\$1,705.818	\$42,847.95
10260	TRANS. CH. 1PH. 250KVA 13.8KV 120T240	25	\$1,036.00	\$25,900.00	0.215	\$3,317	0.094	\$6,739	\$2,317.231	\$57,930.78
10261	TRANS. CH. 1PH. 37.5KVA 13.8KV 120T240	25	\$1,254.00	\$31,350.00	0.299	\$3,317	0.111	\$6,739	\$2,976.812	\$74,395.30
10262	TRANS. CH. 1PH. 50KVA 13.8KV 120T240	8	\$1,574.00	\$12,592.00	0.415	\$3,317	0.122	\$6,739	\$3,705.323	\$29,842.58
10263	TRANS. CH. 1PH. 75KVA 13.8KV 120T240	10	\$2,042.00	\$20,420.00	0.728	\$3,317	0.122	\$6,739	\$5,878.036	\$58,780.39
10264	TRANS. CH. 1PH. 100KVA 13.8KV 120T240	0	\$4,399.00	\$0.00	0.768	\$3,317	0.184	\$6,739	\$4,285.968	\$0.00
10265	TRANS. CH. 1PH. 150KVA 13.8KV 120T240	0	\$4,650.00	\$0.00	1.299	\$3,317	0.318	\$6,739	\$11,894.785	\$0.00
10266	TRANS. CH. 1PH. 250KVA 13.8KV 240T480	0	\$1,065.00	\$0.00	0.152	\$3,317	0.050	\$6,739	\$1,701.134	\$0.00
10267	TRANS. CH. 1PH. 37.5KVA 13.8KV 240T480	0	\$1,240.00	\$0.00	0.264	\$3,317	0.073	\$6,739	\$2,402.465	\$0.00
10268	TRANS. CH. 1PH. 50KVA 13.8KV 240T480	0	\$1,562.00	\$0.00	0.298	\$3,317	0.111	\$6,739	\$2,976.812	\$0.00
10269	TRANS. CH. 1PH. 75KVA 13.8KV 240T480	0	\$2,453.00	\$0.00	0.402	\$3,317	0.142	\$6,739	\$3,690.402	\$0.00
10270	TRANS. CH. 1PH. 100KVA 13.8KV 240T480	0	\$4,229.00	\$0.00	0.845	\$3,317	0.142	\$6,739	\$2,548.423	\$0.00
10271	TRANS. CH. 1PH. 150KVA 13.8KV 240T480	0	\$1,064.00	\$0.00	0.765	\$3,317	0.197	\$6,739	\$4,190.546	\$0.00
10272	TRANS. CH. 1PH. 250KVA 13.8KV 277	0	\$1,495.00	\$0.00	0.194	\$3,317	0.065	\$6,739	\$2,267.062	\$0.00
10273	TRANS. CH. 1PH. 37.5KVA 13.8KV 277	0	\$1,495.00	\$0.00	0.293	\$3,317	0.099	\$6,739	\$2,976.812	\$0.00
10274	TRANS. CH. 1PH. 50KVA 13.8KV 277	0	\$1,495.00	\$0.00	0.432	\$3,317	0.128	\$6,739	\$3,708.319	\$0.00
10275	TRANS. CH. 1PH. 75KVA 13.8KV 277	0	\$2,002.00	\$0.00	0.808	\$3,317	0.123	\$6,739	\$5,511.033	\$0.00
TOTAL										\$1,243,180.37

2009 ELECTRIC DISTRIBUTION TRANSFORMER EVALUATION

BSE / COOPER (5%)

Unit ID	TRANSFORMER DESCRIPTION	2009 Evaluated Quantity	2009 Unit Purchase Price (\$)	2009 Extended Estimated Purchase Price	Load Losses (KVA)	Value of Load Losses (\$/KVA)	No Load Losses (KVA)	Value of No Load Losses (\$/KVA)	Life Cycle Value Purchases	Extended 2009 Life Cycle Value
10678	TRANS. PH. 3PH. 15MVA 13.8KV 240120	1	\$1,450.00	\$1,450.00	0.146	\$3,317	0.000	\$6,739	\$1,450.00	\$1,450.00
10679	TRANS. PH. 1PH. 15MVA 13.8KV 240120	4	\$1,515.00	\$6,060.00	0.214	\$3,317	0.044	\$6,739	\$6,060.00	\$10,065.42
10680	TRANS. PH. 3PH. 25MVA 13.8KV 240120	14	\$1,544.00	\$21,616.00	0.326	\$3,317	0.081	\$6,739	\$21,616.00	\$43,908.89
10681	TRANS. PH. 1PH. 25MVA 13.8KV 240120	20	\$1,577.00	\$31,540.00	0.447	\$3,317	0.091	\$6,739	\$31,540.00	\$77,111.16
10682	TRANS. PH. 3PH. 30MVA 13.8KV 240120	12	\$2,020.00	\$24,240.00	0.581	\$3,317	0.095	\$6,739	\$24,240.00	\$55,048.58
10683	TRANS. PH. 1PH. 30MVA 13.8KV 240120	1	\$2,380.00	\$2,380.00	0.732	\$3,317	0.142	\$6,739	\$2,380.00	\$5,764.86
10684	TRANS. PH. 1PH. 100MVA 13.8KV 240120	0	\$2,943.00	\$0.00	0.927	\$3,317	0.170	\$6,739	\$0.00	\$0.00
10685	TRANS. PH. 1PH. 167MVA 13.8KV 240120	1	\$3,788.00	\$3,788.00	1.473	\$3,317	0.281	\$6,739	\$3,788.00	\$10,565.60
10686	TRANS. PH. 1PH. 18MVA 13.8KV 480240	1	\$1,573.00	\$1,573.00	0.200	\$3,317	0.047	\$6,739	\$1,573.00	\$2,553.13
10687	TRANS. PH. 3PH. 45MVA 13.8KV 240120	2	\$6,053.00	\$12,106.00	0.619	\$3,317	0.131	\$6,739	\$12,106.00	\$17,936.26
10688	TRANS. PH. 3PH. 75MVA 13.8KV 240120	6	\$6,616.00	\$39,696.00	0.862	\$3,317	0.200	\$6,739	\$39,696.00	\$65,348.26
10689	TRANS. PH. 3PH. 117.5MVA 13.8KV 240120	1	\$7,089.00	\$7,089.00	1.262	\$3,317	0.256	\$6,739	\$7,089.00	\$13,048.18
10690	TRANS. PH. 3PH. 160MVA 13.8KV 240120	7	\$7,489.00	\$52,423.00	1.634	\$3,317	0.308	\$6,739	\$52,423.00	\$104,762.13
10691	TRANS. PH. 3PH. 225MVA 13.8KV 240120	4	\$9,134.00	\$36,536.00	2.153	\$3,317	0.414	\$6,739	\$36,536.00	\$78,261.79
10692	TRANS. PH. 3PH. 300MVA 13.8KV 240120	4	\$10,107.00	\$40,428.00	2.606	\$3,317	0.467	\$6,739	\$40,428.00	\$91,320.59
10693	TRANS. PH. 3PH. 500MVA 13.8KV 240120	1	\$14,039.00	\$14,039.00	4.298	\$3,317	0.838	\$6,739	\$14,039.00	\$33,948.46
10694	TRANS. PH. 3PH. 1000MVA 13.8KV 240120	0	\$17,616.00	\$0.00	6.910	\$3,317	1.071	\$6,739	\$0.00	\$0.00
10695	TRANS. PH. 3PH. 75MVA 13.8KV 480277	0	\$23,000.00	\$0.00	9.295	\$3,317	1.072	\$6,739	\$0.00	\$0.00
10696	TRANS. PH. 3PH. 117.5MVA 13.8KV 480277	0	\$7,253.00	\$0.00	0.800	\$3,317	0.169	\$6,739	\$0.00	\$0.00
10697	TRANS. PH. 3PH. 150MVA 13.8KV 480277	0	\$7,659.00	\$0.00	1.142	\$3,317	0.279	\$6,739	\$0.00	\$0.00
10698	TRANS. PH. 3PH. 225MVA 13.8KV 480277	0	\$8,744.00	\$0.00	1.865	\$3,317	0.478	\$6,739	\$0.00	\$0.00
10699	TRANS. PH. 3PH. 300MVA 13.8KV 480277	1	\$10,013.00	\$10,013.00	2.376	\$3,317	0.601	\$6,739	\$10,013.00	\$21,821.19
10700	TRANS. PH. 3PH. 500MVA 13.8KV 480277	1	\$13,373.00	\$13,373.00	3.619	\$3,317	0.921	\$6,739	\$13,373.00	\$31,543.84
10701	TRANS. PH. 3PH. 750MVA 13.8KV 480277	1	\$18,269.00	\$18,269.00	5.126	\$3,317	1.280	\$6,739	\$18,269.00	\$43,994.50
10702	TRANS. PH. 3PH. 1000MVA 13.8KV 480277	1	\$21,997.00	\$21,997.00	7.503	\$3,317	1.346	\$6,739	\$21,997.00	\$55,053.15
10703	TRANS. PH. 3PH. 1600MVA 13.8KV 480277	1	\$26,304.00	\$26,304.00	8.972	\$3,317	2.007	\$6,739	\$26,304.00	\$72,003.20
10704	TRANS. PH. 3PH. 2000MVA 13.8KV 480277	0	\$34,179.00	\$0.00	13.052	\$3,317	2.267	\$6,739	\$0.00	\$0.00
10705	TRANS. PH. 3PH. 2500MVA 13.8KV 480277	1	\$43,264.00	\$43,264.00	17.664	\$3,317	2.318	\$6,739	\$43,264.00	\$117,476.49
10706	TRANS. OH. 1PH. 10MVA 13.8KV 120240	50	\$991.00	\$49,550.00	0.145	\$3,317	0.024	\$6,739	\$49,550.00	\$70,064.55
10707	TRANS. OH. 1PH. 15MVA 13.8KV 120240	25	\$743.00	\$18,575.00	0.232	\$3,317	0.036	\$6,739	\$18,575.00	\$44,260.65
10708	TRANS. OH. 1PH. 25MVA 13.8KV 120240	25	\$937.00	\$23,425.00	0.348	\$3,317	0.052	\$6,739	\$23,425.00	\$61,643.80
10709	TRANS. OH. 1PH. 37.5MVA 13.8KV 120240	25	\$1,286.00	\$32,150.00	0.568	\$3,317	0.111	\$6,739	\$32,150.00	\$77,187.12
10710	TRANS. OH. 1PH. 50MVA 13.8KV 120240	8	\$1,380.00	\$11,040.00	0.725	\$3,317	0.099	\$6,739	\$11,040.00	\$30,502.18
10711	TRANS. OH. 1PH. 75MVA 13.8KV 120240	10	\$2,642.00	\$26,420.00	0.847	\$3,317	0.123	\$6,739	\$26,420.00	\$58,790.39
10712	TRANS. OH. 1PH. 100MVA 13.8KV 120240	0	\$4,254.00	\$0.00	0.947	\$3,317	0.164	\$6,739	\$0.00	\$0.00
10713	TRANS. OH. 1PH. 150MVA 13.8KV 120240	0	\$5,159.00	\$0.00	1.587	\$3,317	0.255	\$6,739	\$0.00	\$0.00
10714	TRANS. OH. 1PH. 250MVA 13.8KV 240480	0	\$844.00	\$0.00	0.189	\$3,317	0.050	\$6,739	\$0.00	\$0.00
10715	TRANS. OH. 1PH. 37.5MVA 13.8KV 240480	0	\$1,051.00	\$0.00	0.323	\$3,317	0.060	\$6,739	\$0.00	\$0.00
10716	TRANS. OH. 1PH. 50MVA 13.8KV 240480	0	\$1,240.00	\$0.00	0.383	\$3,317	0.063	\$6,739	\$0.00	\$0.00
10717	TRANS. OH. 1PH. 75MVA 13.8KV 240480	0	\$2,462.00	\$0.00	0.563	\$3,317	0.089	\$6,739	\$0.00	\$0.00
10718	TRANS. OH. 1PH. 100MVA 13.8KV 240480	0	\$2,453.00	\$0.00	0.645	\$3,317	0.142	\$6,739	\$0.00	\$0.00
10719	TRANS. OH. 1PH. 150MVA 13.8KV 240480	0	\$4,226.00	\$0.00	0.785	\$3,317	0.197	\$6,739	\$0.00	\$0.00
10720	TRANS. OH. 1PH. 250MVA 13.8KV 240480	0	\$1,051.00	\$0.00	0.189	\$3,317	0.060	\$6,739	\$0.00	\$0.00
10721	TRANS. OH. 1PH. 37.5MVA 13.8KV 240480	0	\$1,427.00	\$0.00	0.365	\$3,317	0.079	\$6,739	\$0.00	\$0.00
10722	TRANS. OH. 1PH. 50MVA 13.8KV 240480	0	\$1,433.00	\$0.00	0.432	\$3,317	0.125	\$6,739	\$0.00	\$0.00
10723	TRANS. OH. 1PH. 75MVA 13.8KV 240480	0	\$2,002.00	\$0.00	0.808	\$3,317	0.123	\$6,739	\$0.00	\$0.00
TOTAL				\$579,489.00						\$1,292,714.96

2009 ELECTRIC DISTRIBUTION TRANSFORMER EVALUATION

IRBY / HOWARD

Unit ID	TRANSFORMER DESCRIPTION	2009 Evaluated Quantity	2006 Unit Purchase Price (\$)	2009 Extended Estimated Purchase Price	Load Losses (KVA)	Value of Load Losses (\$/KVA)	No Load Losses (KVA)	Value of No Load Losses (\$/KVA)	Life Cycle Value 2009 Purchases	Extended 2009 Life Cycle Value
10677	Trans. PH. 1PH. 5KVA 13.8KV 240/120	1	\$1,753.00	\$1,753.00	0.060	\$3,317	0.021	\$6,739	\$2,123,539	\$2,123,539
10678	Trans. PH. 1PH. 5KVA 13.8KV 240/120	4	\$6,020.00	\$6,020.00	0.141	\$3,317	0.059	\$6,739	\$2,370,298	\$9,481.19
10679	Trans. PH. 1PH. 25KVA 13.8KV 240/120	14	\$1,866.00	\$26,124.00	0.234	\$3,317	0.075	\$6,739	\$2,839,503	\$41,194.44
10680	Trans. PH. 1PH. 37.5KVA 13.8KV 240/120	20	\$2,002.00	\$40,040.00	0.300	\$3,317	0.103	\$6,739	\$3,799,217	\$74,184.34
10681	Trans. PH. 1PH. 50KVA 13.8KV 240/120	12	\$2,820.00	\$33,840.00	0.419	\$3,317	0.127	\$6,739	\$4,597,676	\$56,172.11
10682	Trans. PH. 1PH. 75KVA 13.8KV 240/120	1	\$3,600.00	\$3,600.00	0.465	\$3,317	0.173	\$6,739	\$6,401.128	\$6,401.13
10683	Trans. PH. 1PH. 100KVA 13.8KV 240/120	0	\$4,800.00	\$0.00	0.564	\$3,317	0.216	\$6,739	\$8,036.476	\$0.00
10684	Trans. PH. 1PH. 157KVA 13.8KV 240/120	1	\$6,903.00	\$6,903.00	0.964	\$3,317	0.317	\$6,739	\$12,303.991	\$12,303.99
10685	Trans. PH. 1PH. 18KVA 13.8KV 480/240	1	\$2,163.00	\$2,163.00	0.126	\$3,317	0.069	\$6,739	\$2,970,543	\$2,970,543
10686	Trans. PH. 3PH. 45KVA 13.8KV 288/120	2	\$3,854.00	\$7,708.00	0.381	\$3,317	0.178	\$6,739	\$9,434,059	\$16,868.12
10687	Trans. PH. 3PH. 75KVA 13.8KV 288/120	6	\$6,426.00	\$38,556.00	0.594	\$3,317	0.252	\$6,739	\$10,090,526	\$60,643.16
10688	Trans. PH. 3PH. 112.5KVA 13.8KV 288/120	1	\$7,740.00	\$7,740.00	0.837	\$3,317	0.393	\$6,739	\$12,480,662	\$12,480,662
10689	Trans. PH. 3PH. 150KVA 13.8KV 288/120	7	\$8,061.00	\$56,427.00	1.035	\$3,317	0.397	\$6,739	\$14,189,478	\$89,118.45
10690	Trans. PH. 3PH. 225KVA 13.8KV 288/120	4	\$9,409.00	\$37,636.00	1.580	\$3,317	0.590	\$6,739	\$19,289,970	\$73,189.89
10691	Trans. PH. 3PH. 300KVA 13.8KV 288/120	4	\$13,738.00	\$54,952.00	1.848	\$3,317	0.657	\$6,739	\$24,319,359	\$97,249.36
10692	Trans. PH. 3PH. 400KVA 13.8KV 288/120	1	\$18,186.00	\$18,186.00	4.743	\$3,317	1.398	\$6,739	\$34,333,263	\$34,333.26
10693	Trans. PH. 3PH. 500KVA 13.8KV 288/120	0	\$24,234.00	\$0.00	7.071	\$3,317	1.914	\$6,739	\$60,981,353	\$0.00
10694	Trans. PH. 3PH. 750KVA 13.8KV 288/120	0	\$7,978.00	\$0.00	0.540	\$3,317	0.263	\$6,739	\$11,474,147	\$0.00
10695	Trans. PH. 3PH. 112.5KVA 13.8KV 480/277	0	\$6,978.00	\$0.00	0.622	\$3,317	0.306	\$6,739	\$13,784,708	\$0.00
10696	Trans. PH. 3PH. 150KVA 13.8KV 480/277	0	\$8,511.00	\$0.00	1.008	\$3,317	0.362	\$6,739	\$18,884,024	\$0.00
10697	Trans. PH. 3PH. 225KVA 13.8KV 480/277	0	\$10,841.00	\$0.00	1.514	\$3,317	0.491	\$6,739	\$19,903,487	\$0.00
10698	Trans. PH. 3PH. 300KVA 13.8KV 480/277	1	\$12,561.00	\$12,561.00	1.748	\$3,317	0.667	\$6,739	\$22,667,176	\$22,667.18
10699	Trans. PH. 3PH. 500KVA 13.8KV 480/277	1	\$15,512.00	\$15,512.00	2.478	\$3,317	0.952	\$6,739	\$31,147,064	\$31,147.06
10700	Trans. PH. 3PH. 750KVA 13.8KV 480/277	1	\$20,191.00	\$20,191.00	4.008	\$3,317	1.341	\$6,739	\$42,432,535	\$42,432.54
10701	Trans. PH. 3PH. 1000KVA 13.8KV 480/277	1	\$26,733.00	\$26,733.00	5.238	\$3,317	1.802	\$6,739	\$54,908,324	\$54,908.32
10702	Trans. PH. 3PH. 2000KVA 13.8KV 480/277	1	\$36,378.00	\$36,378.00	8.811	\$3,317	1.690	\$6,739	\$78,071,237	\$78,071.24
10703	Trans. PH. 3PH. 2500KVA 13.8KV 480/277	0	\$45,024.00	\$0.00	9.129	\$3,317	3.189	\$6,739	\$99,842,737	\$0.00
10704	Trans. PH. 3PH. 2500KVA 13.8KV 480/277	1	\$50,756.00	\$50,756.00	13.011	\$3,317	3.226	\$6,739	\$115,656,501	\$115,656.50
10705	Trans. OH. 1PH. 10KVA 13.8KV 120/240	50	\$1,792.00	\$89,600.00	0.132	\$3,317	0.042	\$6,739	\$1,478,712	\$73,965.80
10706	Trans. OH. 1PH. 15KVA 13.8KV 120/240	25	\$694.00	\$17,350.00	0.166	\$3,317	0.052	\$6,739	\$1,868,090	\$46,028.25
10707	Trans. OH. 1PH. 25KVA 13.8KV 120/240	25	\$1,378.00	\$34,475.00	0.219	\$3,317	0.077	\$6,739	\$2,824,326	\$66,038.15
10708	Trans. OH. 1PH. 37.5KVA 13.8KV 120/240	25	\$1,714.00	\$42,850.00	0.295	\$3,317	0.105	\$6,739	\$3,403,427	\$86,085.69
10709	Trans. OH. 1PH. 50KVA 13.8KV 120/240	8	\$1,928.00	\$15,424.00	0.409	\$3,317	0.128	\$6,739	\$4,158,246	\$33,241.98
10710	Trans. OH. 1PH. 75KVA 13.8KV 120/240	10	\$2,634.00	\$26,340.00	0.577	\$3,317	0.169	\$6,739	\$5,988,820	\$59,888.20
10711	Trans. OH. 1PH. 100KVA 13.8KV 120/240	0	\$3,074.00	\$0.00	0.652	\$3,317	0.215	\$6,739	\$6,868,599	\$0.00
10712	Trans. OH. 1PH. 150KVA 13.8KV 120/240	0	\$4,298.00	\$0.00	0.881	\$3,317	0.333	\$6,739	\$12,075,035	\$0.00
10713	Trans. OH. 1PH. 250KVA 13.8KV 120/240	0	\$1,363.00	\$0.00	0.181	\$3,317	0.063	\$6,739	\$2,300,544	\$0.00
10714	Trans. OH. 1PH. 375KVA 13.8KV 120/240	0	\$1,678.00	\$0.00	0.211	\$3,317	0.078	\$6,739	\$3,101,939	\$0.00
10715	Trans. OH. 1PH. 500KVA 13.8KV 120/240	0	\$2,228.00	\$0.00	0.309	\$3,317	0.113	\$6,739	\$4,014,460	\$0.00
10716	Trans. OH. 1PH. 750KVA 13.8KV 120/240	0	\$3,064.00	\$0.00	0.340	\$3,317	0.132	\$6,739	\$4,871,328	\$0.00
10717	Trans. OH. 1PH. 1000KVA 13.8KV 120/240	0	\$3,663.00	\$0.00	0.591	\$3,317	0.163	\$6,739	\$6,678,634	\$0.00
10718	Trans. OH. 1PH. 1500KVA 13.8KV 120/240	0	\$4,216.00	\$0.00	0.800	\$3,317	0.223	\$6,739	\$7,708,967	\$0.00
10719	Trans. OH. 1PH. 2500KVA 13.8KV 120/240	0	\$1,818.00	\$0.00	0.228	\$3,317	0.078	\$6,739	\$3,098,918	\$0.00
10720	Trans. OH. 1PH. 37.5KVA 13.8KV 277	0	\$2,228.00	\$0.00	0.317	\$3,317	0.114	\$6,739	\$4,048,735	\$0.00
10721	Trans. OH. 1PH. 50KVA 13.8KV 277	0	\$2,874.00	\$0.00	0.371	\$3,317	0.125	\$6,739	\$4,946,962	\$0.00
10722	Trans. OH. 1PH. 75KVA 13.8KV 277	0	\$3,658.00	\$0.00	0.589	\$3,317	0.165	\$6,739	\$6,071,848	\$0.00
TOTAL				\$686,634.00						\$1,306,975.43



RESOLUTION

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, that the Common Council of the said City is requested to approve a multi-year contract agreement with WESCO Distribution and that the Common Council authorize the Mayor and the City Clerk to execute the agreement for

Electric Distribution Transformers

The amount of the contract agreement to be determined by the number and type of transformers purchased over the life of the contract, WESCO Distribution being lowest responsible bidder. The term of the agreement to be 2009 – 2013, and is subject to the annual approval of the RPU budgets by the Board and Council.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 24th day of February, 2009.

President

Secretary