



MEETING AGENDA – MAY 23, 2017

RPU SERVICE CENTER
4000 EAST RIVER ROAD NE
BOARD ROOM
ROCHESTER, MN 55906

4:00 PM

Call to Order

1. Approval of Agenda

2. Approval of Minutes

1. Public Utility Board - Regular Meeting - Apr 25, 2017 4:00 PM

3. Approval of Accounts Payable

1. a/p board listing

NEW BUSINESS

Open Comment Period

(This agenda section is for the purpose of allowing citizens to address the Utility Board. Comments are limited to 4 minutes, total comment period limited to 15 minutes. Any speakers not having the opportunity to be heard will be the first to present at the next Board meeting.)

4. Consideration Of Bids

5. Regular Agenda

1. RPU SOLARCHOICE Program
Resolution: RPU SOLARCHOICE Program
2. 2017 In-Building Transformer Vault Installation Standard
Resolution: 2017 In-Building Transformer Vault Installation Standard
3. 2017 Electric Service Rules and Regulations
Resolution: 2017 Electric Service Rules and Regulations
4. Adoption of Minnesota Statute Chapter 453 Section 453.51 - 453.62 Municipal Electric Power
Resolution: Adoption of Minnesota Statute Chapter 453 Section 453.51 - 453.62 Municipal Electric Power

6. Informational

1. Billing, Credit and Collection Policy

7. Board Liaison Reports

8. General Managers Report

9. Division Reports & Metrics

10. Other Business

11. Adjourn

The agenda and board packet for Utility Board meetings are available on-line at www.rpu.org and <http://rochestercitymn.igmp2.com/Citizens/Default.aspx>



MEETING MINUTES – APRIL 25, 2017

RPU SERVICE CENTER
4000 EAST RIVER ROAD NE
BOARD ROOM
ROCHESTER, MN 55906

4:00 PM

Call to Order

1. Approval of Agenda

1. **Motion to:** approve the agenda as presented.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Michael Wojcik, Board Member
SECONDER:	Melissa Graner Johnson, Board Member
AYES:	Browning, Haskin, Johnson, Morgan, Wojcik

2. Approval of Minutes

1. Public Utility Board - Regular Meeting - Mar 28, 2017 4:00 PM
2. **Motion to:** approve the minutes as presented.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Michael Wojcik, Board Member
SECONDER:	Brian Morgan, Board Member
AYES:	Browning, Haskin, Johnson, Morgan, Wojcik

3. Approval of Accounts Payable

1. A/P Board listing

Board Member Melissa Graner Johnson asked for more details about line item #47 for bailed sand from existing well #16. General Manager Mark Kotschevar replied that the well was bailed to bring it back to the proper depth. Ms. Johnson also asked about line item #96 to produce and host presentation financials; Mr. Kotschevar explained that the utility prepared a presentation for investors during the bond issuance. Ms. Johnson asked if line item #56 for a damage prevention seminar is related to the "Call before you dig" campaign; Mr. Kotschevar indicated that yes, the seminar is part of an outreach program to educate the community and reduce liability, and is a joint effort between other utilities.

2. **Motion to:** approve the A/P Board Listing as presented.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Michael Wojcik, Board Member
SECONDER:	Melissa Graner Johnson, Board Member
AYES:	Browning, Haskin, Johnson, Morgan, Wojcik

NEW BUSINESS

Open Comment Period

(This agenda section is for the purpose of allowing citizens to address the Utility Board. Comments are limited to 4 minutes, total comment period limited to 15

minutes. Any speakers not having the opportunity to be heard will be the first to present at the next Board meeting.)

President Browning opened the meeting for public comment. No one from the public came forward to speak.

4. Regular Agenda

1. Audit Presentation – 2016 Annual Audit Results

Ms. Gwen Zech of Baker Tilly Virchow Krause, LLP, presented to the Board the results of the utility's 2016 financial audit. The audit resulted in no findings, and RPU achieved an unmodified clean opinion, which Ms. Baker indicated is the highest result achievable in an audit.

The Board voted unanimously to place the audit report on file.

General Manager Mark Kotschevar acknowledged the accounting department for their efforts in assisting with the audit, and expressed his thanks.

RESULT:	COUNCIL APPROVAL [UNANIMOUS]
MOVER:	Brian Morgan, Board Member
SECONDER:	Michael Wojcik, Board Member
AYES:	Browning, Haskin, Johnson, Morgan, Wojcik

2. Electric Utility Line Extension Fee Schedule

General Manager Mark Kotschevar addressed the Board regarding the discussions from the past three months on the new Electric Utility Line Extension Policy, approved by the Board in March. Mr. Kotschevar presented the new associated rate schedule, saying it will equitably line up costs for the construction fee for electric service. Mr. Kotschevar met with the Rochester Area Builders (RAB) on April 6, 2017, to answer their questions and explain the basis of the fee calculations, and responded in writing to the concerns RAB raised in a memo issued to the Board on March 28, 2017. Mr. Kotschevar also met with the Rochester Area Foundation to discuss any concerns they may have with how the fee may affect affordable housing in Rochester. The general concern from these groups is that the fee will be an additional revenue stream on top of net position dollars, however Mr. Kotschevar clarified that it is really a transfer of where the utility will collect the revenue, not a new revenue stream.

Mr. Kotschevar requested Board approval of the Electric Utility Line Extension Rate Schedule. Next, the item will appear before the Committee of the Whole on May 8, 2017, and then before the Rochester City Council on May 15, 2017.

Resolution: Electric Utility Line Extension Fee Schedule

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, to approve and request Common Council approval of the Electric Utility Line Extension Rate Schedule titled LINEEXT to be effective January 1, 2018.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 25th day of April, 2017.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Tim Haskin, Board Member
SECONDER:	Michael Wojcik, Board Member
AYES:	Browning, Haskin, Johnson, Morgan, Wojcik

5. Informational

1. RPU Renewable Energy Objective for 2016

Manager of Portfolio Optimization Jeremy Sutton shared with the Board the steps the utility has taken to voluntarily meet the renewable energy standard. RPU has followed Minnesota Statute 216B.1691 since 2012, and has made the commitment to review available renewable energy credits and retire as many as possible to cover all the above CROD load. In essence, all of RPU's above CROD load is served by renewable sources. The utility will continue to review this annually to meet the renewable energy standard.

2. Community Solar Offering

RPU is partnering with SMMPA (Southern Minnesota Municipal Power Agency) to offer a Community Solar program, allowing customers to partake in the benefits of solar energy by buying into the use of a solar panel(s) located elsewhere, and receiving a kWh credit on their bill based on the number of panels subscribed to. Manager of Portfolio Optimization Jeremy Sutton said the program offers an alternative for customers wishing to benefit from solar energy without the requirement of installing a solar panel(s) on the roof of their homes. The cost per 335 watt panel will be \$650. Customers will have the option to pay 12 monthly installments to purchase the panel(s), or pay in full upfront. This will be a 12-year program, starting on January 1, 2018, and running through 2030. RPU will make a decision in 2030 to either continue with the program, or offer its own solar energy product. RPU will not buy back the panels, but the customer will have the option to gift or sell the panel(s) to another RPU customer.

Board Member Michael Wojcik asked if customers who purchase panel(s) will receive power for the life of the panel or for 12 years? Mr. Sutton replied it will be for 12 years; participating customers will be buying the power output, not the panel itself. The 12 year term is similar to what other utilities offer, and Mr. Sutton added that through the program, insurance as well as the tax credit are included.

Board Member Melissa Graner Johnson asked if the project might sell out? Mr. Sutton replied that it's not likely, as there are 4,800 panels available. The program is available to all customers, and the first phase will be residential.

This item will come back to the Board for approval at the May 2017 meeting. General Manager Mark Kotschevar said that RPU will be announcing the project to customers via a marketing campaign.

3. Douglas Trail Substation Project Status Report

Director of Core Services Sidney Jackson presented an update on the construction of the Douglas Trail Substation, which is nearly completed. Mr. Jackson indicated the project is on budget and on schedule, and the utility delivered a quality product as promised. Epic Systems initially requested RPU to design and build the substation in April 2015, and construction began in April 2016, with a projected completion date of May 2017. Although the project had some challenges, project manager Neil Stiller said the hard work of staff can be credited for keeping the project on schedule and he thanked all those involved. The substation is currently being prepped for energization on or around May 30, 2017.

4. Westside Energy Station Project Status Report

Director of Power Resources Wally Schlink presented the Board with a status update on the construction of the West Side Energy Station, stating that the project is on budget, on schedule and there have been no recordable injuries to date. Boldt Construction is the general contractor for the project, and Mr. Schlink praised their strong focus on job site safety training and practices. Mr. Schlink stated that the engines will be delivered in June 2017 and the transformer will be delivered in August 2017. Commercial operation of the plant is slated for May 1, 2018.

Board Member Brian Morgan asked if the Board would be able to tour the station during construction. Mr. Schlink replied that as long as the required safety training is completed, a tour could be arranged for those interested.

General Manager Mark Kotschevar congratulated Mr. Schlink, Manager of Portfolio Optimization Jeremy Sutton, and Manager of Power Resources Tony Dzubay, for their project management efforts and planning, and credited them for keeping the project on schedule.

6. Board Liaison Reports

General Manager Mark Kotschevar informed the Board that the directors and the Board committees are currently working on updating drafts of four outdated Board policies as follows: Credit and Collections Policy, Rates Policy, Acquisition and Disposal of Interest in Real Property, and Compliance Policy.

7. General Managers Report

City Attorney Terry Adkins updated the Board on the latest status of the Federal Energy Regulatory Commission (FERC) hearing. General Manager Mark Kotschevar thanked Mr. Adkins for his legal guidance and oversight on behalf of the utility during the hearing process.

8. Division Reports & Metrics

During discussion of the utility's Division Reports, Board Member Brian Morgan asked for more detail for an item in the Customer Relations report regarding a service level agreement for storm water customer account billing being drafted by staff. Marketing Manager Patty Hanson explained that RPU will be presenting the agreement for approval at a Committee of the Whole meeting on May 15, 2017. The agreement proposes the hiring of two full time employees to handle storm water billing questions.

Mr. Morgan also asked about a recordable injury from March 2017 noted in the Safety/Compliance & Public Affairs report, and whether a root cause analysis was conducted. General Manager Mark Kotschevar replied that the incident review team reviewed the injury report and concluded that an inverted ladder caused the employee to slip off and fall, and the utility has taken appropriate corrective action.

9. Other Business

10. Adjourn

The meeting was adjourned at 5:12 PM.

Board Study Session immediately following meeting.

The agenda and board packet for Utility Board meetings are available on-line at www.rpu.org and <http://rochestercitymn.igmp2.com/Citizens/Default.aspx>

Submitted by:

Secretary

Approved by the Board

Board President

Date

ACCOUNTS PAYABLE

Meeting Date: 5/23/2017

SUBJECT: a/p board listing

PREPARED BY: Terri Engle

please approve

ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
Consolidated & Summarized Below 1,000

Greater than 50,000 :

SOUTHERN MN MUNICIPAL POWER A	April SMMPA Bill	6,754,899.50
WARTSILA NORTH AMERICA	Reciprocating Engines	8,176,943.55
ABB INC. PAYMENT	Power Transformers Douglas Trail (DT)	1,033,191.00
WESTSIDE ENERGY PARTNERS	Westside Energy Station (WES) Engineering	927,405.03
MN DEPT OF REVENUE	March Sales and Use Tax	508,996.53
CONSTELLATION NEWENERGY-GAS D	March 2017 Gas SLP	172,197.19
THE OSSEO CONSTRUCTION CO. LL	John Adams Tower Reconditioning	114,214.00
N HARRIS COMPUTER CORP	April Cayenta Implementation Services	104,950.00
CONSTELLATION NEWENERGY-GAS D	March 2017 Gas CC	100,000.31
BORDER STATES ELECTRIC SUPPLY	480-Meter, 12S CL200 120V 2-WAY W/Disc	92,945.34
V & G PROPERTIES LLC	CIP Conserve & Save Rebates - Lighting	60,727.00

Price Range Total: 18,046,469.45

5,000 to 50,000 :

RSP ARCHITECTS LTD.	Service Center Expansion Project-April 2017	49,784.61
MAYO FOUNDATION	CIP Rebates-Lighting, Motor, Variable Speed Drive	47,004.06
BORDER STATES ELECTRIC SUPPLY	240-Meter, 12S CL200 120V 2-WAY W/Disconnect	46,472.67
ITRON INC	Metering & Security Software (FCS & ISM Implent)	46,279.94
KERRY	CIP Rebates-Custom & Variable Speed Drive	46,191.89
KUTZKY PARK PLACE LLC	CIP Conserve & Save Rebates-Heat Pump	43,969.80
BILLTRUST dba	16-17 CC/Billing/Mailing/IVR Service-April Services	42,006.28
BURNS & MCDONNELL INC (P)	Engineering Services for WES Interconnec	39,827.94
ASPLUNDH TREE EXPERT CO INC (405B Line Clearance~Tree Trimming	32,320.07
FRANKLIN ENERGY SERVICES LLC	2017 DSM / CIP Services- Apr-Jun 2017	30,314.80
NELSON AUTO CENTER	2017 GMC Sierra 2500 (V602)~	27,091.62
NELSON AUTO CENTER	2017 GMC Sierra 2500 (V601)~	27,091.62
NELSON AUTO CENTER	2017 GMC Sierra 1500 (V600)~	27,060.77
XYLO TECHNOLOGIES INC	2017 IT Helpdesk Support	26,229.00
PICTOMETRY INTERNATIONAL	Lidar Pictometry Project	24,455.67
HOOPER CORPORATION	PO#11207-Pay out Retention	23,781.90
STUART C IRBY CO INC	4-Trans, PM, 3ph, 150kVA, 13.8/8, 208/120	23,748.00
WRIGHT TREE SERVICE INC	2017 Hourly Tree Trimming~	23,582.60
PEOPLES ENERGY COOPERATIVE (P	April Compensable	23,282.77
N HARRIS COMPUTER CORP	Travel for Cayenta Implementation Serv	23,174.25
THE ENERGY AUTHORITY INC	April TEA Resource Fee	22,220.72
BLUESPIRE STRATEGIC MARKETING	2016 - 2019 RPU Plugged In Contract-monthly billing	20,456.00
COMPUTER TASK GROUP INC	Project Coordinator for Cayenta Project	20,182.50
TECHNOLOGY CONSULTING GROUP L	System Admin Consultant	18,450.00
DAKOTA SUPPLY GROUP	60-Luminaire, 108W LED, PC 120-277V, Gray	18,339.75
CRESCENT ELECTRIC SUPPLY CO	8000 ft-Wire, AL, 600V, 350-4/0 NEU YS Tri Urd	17,807.16
EPLUS TECHNOLOGY INC	2017-20 NetApp Maintenance Renewal	17,429.03
WRIGHT TREE SERVICE INC	801D Line Clearance~Tree Trimming	17,327.29
MASTEC NORTH AMERICA INC	Directional Boring/Misc Excavation	16,845.00
VERTEX US HOLDINGS INC	Consulting Services for Data Migration	15,451.35
U S ALLIANCE GROUP	April Credit Card Processing Fees	15,355.36
THE NICHOLAS APTS LLC	CIP Rebates-CFL Bulbs & LED Light Fixtures	14,761.17
BORDER STATES ELECTRIC SUPPLY	60-Cutout Door, 30A ELF, 15KV	13,155.60
CRESCENT ELECTRIC SUPPLY CO	6080 ft-Conduit, PVC Sch 40, 5.00, 20' length	12,512.64
McGRANN SHEA CARNIVAL STRAUGH	2017 Retainer Q1-Legal Services	12,500.00
CENTURYLINK	2017 Monthly Telecommunications	11,926.95
WORKS COMPUTING INC	HP Foundation Care Support	11,814.49

Attachment: AP Board CRMO (7335 : a/p board listing)

ROCHESTER PUBLIC UTILITIES

A/P Board Listing By Dollar Range

For 04/11/2017 To 05/09/2017

Consolidated & Summarized Below 1,000

56	IBM	CIP Conserve & Save Rebates-Lighting & Motor	11,798.00
57	STUART C IRBY CO INC	10-Trans, PM, 1ph, 15kVA, 13.8/8, 240/120	11,790.00
58	STUART C IRBY CO INC	10-Trans, PM, 3ph, 112.5kVA, 13.8/8, 208/120	10,970.00
59	ZOHO CORPORATION	ManageEngine Firewall Analyzer Sub-3yrs	10,807.73
60	TELVENT USA LLC	Responder IF Adapter Sftwre for CIS	10,687.50
61	CHS ROCHESTER	April Fuel	10,540.98
62	PITNEY BOWES 10041747 RESERVE	Pre-Paid Postage	10,000.00
63	DELL MARKETING LP	10-Computer, Dell Optiplex 7040	9,513.59
64	MN POLLUTION CONTROL AGENCY	2017 SLP Annual Emmissions Fee	9,480.37
65	OASIS CHURCH	Easement Compensation-Oasis Church	8,999.43
66	AFFILIATED GROUP INC	2017 Collections/Delinquent Services	8,762.50
67	VIKING ELECTRIC SUPPLY INC	2500 ft-Conduit, HDPE, 4.00, Empty, SDR 13.5	8,676.48
68	ARNOLDS SUPPLY & KLEENIT CO (2017 Monthly Cleaning Services	8,528.63
69	CONSOLIDATED COMMUNICATIONS d	17-19 Network and Collocation Services	8,114.51
70	ALL SYSTEMS INSTALLATION dba	CAT 6 Converstion - Close cable upgrade	7,915.00
71	WESCO DISTRIBUTION INC	Wire, Copper, 4/0 Str, Bare, 19 Str.	7,830.00
72	WELLS FARGO BANK ACCT ANALYSI	2017 Banking Services	7,727.01
73	CENTRAL LUTHERAN SCHOOL	CIP Rebates-Heat Pump & Variable Speed Drive	7,675.00
74	TRIPWIRE INC	Software Licenses	7,322.74
75	ROCHESTER MEADOWS	CIP Conserve & Save Rebates-Lighting	6,915.27
76	BARR ENGINEERING COMPANY (P)	Water Sustainability Study Phase 3B	6,683.61
77	POWER SYSTEMS ENGINEERING INC	System Wide Long Range Plan	6,496.50
78	SCHWEITZER ENGINEERING LAB IN	SEL-3530 Real time auto controller	6,430.00
79	VIKING ELECTRIC SUPPLY INC	3000 ft-Conduit, PVC Sch 40, 4.00	6,237.40
80	MN POLLUTION CONTROL AGENCY	2017 Cascade Creek Annual Emmissions Fee	6,101.86
81	ASHLAND VILLAGE	CIP Rebates-Lighting & LED Light Fixtures	5,976.25
82	ULTEIG ENGINEERS INC	Q7 line clearance analysis	5,255.75
83	VIKING ELECTRIC SUPPLY INC	2850-Conduit, PVC Sch 40, 4.00	5,197.83
84	PITNEY BOWES 10041747 RESERVE	Pre-paid Postage	5,000.00

Price Range Total:

1,187,639.21

1,000 to 5,000 :

90	CITY OF ROCHESTER	W/C	4,902.98
91	GDS ASSOCIATES INC	Prof. Serv. for FERC filing	4,880.00
92	THE ENERGY AUTHORITY INC	WES MISO Dispatch Study	4,800.00
93	VERIZON WIRELESS	2017 Cell & Ipad Monthly Service	4,595.41
94	D P C INDUSTRIES INC	2017 Carus 8500 Aqua Mag F35	4,533.30
95	KATS COMPANY LLC	Water SA service repair - 1209 2 St NE	4,500.00
96	S L CONTRACTING INC	street restoration due to break	4,478.00
97	NORTHBROOK LLC	CIP Conserve & Save Rebates-Lighting	4,364.00
98	PREMIER BANK	CIP Conserve & Save Rebates-Variable Speed Drive	4,350.00
99	USIC LOCATING SERVICES INC	2017 Locating Services	4,323.70
100	SHORT ELLIOTT HENDRICKSON INC	Transformer Pad Structural Review - engineering	4,275.00
101	STUART C IRBY CO INC	Conduit, HDPE, 1.50, Empty, Orange	4,237.50
102	D P C INDUSTRIES INC	2017 Chlorine, 150 lb Cyl	4,222.50
103	CRESCENT ELECTRIC SUPPLY CO	Elbow, Steel, 36.0 R, 5.00	4,116.00
104	NICHOLAS LLC	CIP Conserve & Save Rebates-Lighting	4,089.80
105	NALCO COMPANY	DI Vessels, Anion, CC	4,039.88
106	MINNESOTA ENERGY RESOURCES CO	March 2017 Gas SLP	4,005.14
107	SPECTRUM REACH	Tips from Tony	3,996.00
108	NICHOLAS APTS - THE OLIVERS	CIP Rebates-LED Light Fixtures & Bulbs	3,995.53
109	BADGER METER INC (P)	Meter, Bare 6" Badger Compound Round FLG	3,939.75
110	STUART C IRBY CO INC	Cutout, 15KV, 100A, NLB, Poly	3,739.20

ROCHESTER PUBLIC UTILITIES

A/P Board Listing By Dollar Range

For 04/11/2017 To 05/09/2017

Consolidated & Summarized Below 1,000

111	D P C INDUSTRIES INC	2017 Hydrofluorosilicic Acid - Delivered	3,735.43
112	MASTEC NORTH AMERICA INC	Directional Boring - 4"	3,480.00
113	TWIN CITY SECURITY INC	2017 Security Services	3,431.01
114	SHI INTERNATIONAL CORP (P)	17 Veritas Essential Support	3,430.69
115	EPLUS TECHNOLOGY INC	2017 Network maintenance services	3,392.00
116	SOMA CONSTRUCTION INC	Rock for break backfill for April	3,135.84
117	CPMI INC	Owner Rep Services Service Center Project	3,090.00
118	ULTEIG ENGINEERS INC	Q6 and Q9 Engineering & Surveying	3,068.86
119	WRIGHT TREE SERVICE INC	801A Line Clearance~	3,031.92
120	CORPORATE WEB SERVICES INC	2017 Website Services	3,000.00
121	PAX CHRISTI CHURCH	CIP Conserve & Save Rebates-Lighting	2,980.48
122	IDEXX DISTRIBUTION CORP	Colilert, 100ml	2,857.80
123	VIKING ELECTRIC SUPPLY INC	Cable Pulling Lube	2,738.04
124	ENVIRONMENTAL RESOURCES OLMST	water quality sampling	2,677.60
125	UNITED RENTALS INC	Boom from 3/13 through 4/10 2017 @ Dougl	2,559.16
126	MASTEC NORTH AMERICA INC	Directional Boring - secondary Ped	2,551.25
127	BARR ENGINEERING COMPANY (P)	Lake Zumbro Third Bay Feasibility Study	2,408.21
128	VIKING ELECTRIC SUPPLY INC	Cable Pulling Lube	2,258.88
129	J J KELLER & ASSOCIATES INC	Keller on Demand-Addtl online trng mtl	2,239.03
130	BORDER STATES ELECTRIC SUPPLY	Tape, Fireproof, 3.0" x 20'	2,171.00
131	VIKING ELECTRIC SUPPLY INC	Conduit, PVC Sch 40, 3.00	2,160.75
132	ADVANCED DISPOSAL SVC SOLID W	2017 Waste Removal Services - SC	2,140.59
133	CLAREY'S SAFETY EQUIPMENT dba	Portable brass plate, 3-piece	2,090.00
134	UNITED RENTALS INC	Forklift @ Douglas Trail Sub	2,073.82
135	ADVANTAGE DIST LLC (P)	Oil, Transformer	2,033.90
136	NALCO COMPANY	DI Vessels, Cation, CC	2,019.94
137	VIKING ELECTRIC SUPPLY INC	Tape, Vinyl, .750" x 66' 3M Super +66	2,003.91
138	DAKOTA SUPPLY GROUP	Wire, Copper, 600V, #4 Str, XLP	1,987.88
139	K A A L TV LLC	Arbor Day Advertising 3/27 - 4/25 2017	1,975.00
140	VIKING ELECTRIC SUPPLY INC	Utility crimper kit	1,885.71
141	NELSON AUTO CENTER	License, Tax, & Registration (V602)	1,872.71
142	NELSON AUTO CENTER	License, Tax, & Registration (V601)	1,872.71
143	NELSON AUTO CENTER	License, Tax, & Registration (V600)	1,870.70
144	ADVANTAGE DIST LLC (P)	Bulk Oil	1,854.40
145	GALVANIZERS INC	Circuit breaker steel supports	1,848.00
146	PAYMENT REMITTANCE CENTER	Travel, Climate Smart Exchange, Flight	1,793.56
147	RESCO	Label, Warning, Secondary Ped. 25/PKG	1,723.36
148	DELL MARKETING LP	Computer, Dell 22 Inch Monitor	1,720.58
149	WESCO DISTRIBUTION INC	Term, Stress C. 15kV, 500-750 MCM, C.S	1,708.20
150	BAIER GERALD	2017 Sweeping Services Jan-December	1,704.66
151	FORBROOK LANDSCAPING SERVICES	Landscaping restoration work at water si	1,703.56
152	BORDER STATES ELECTRIC SUPPLY	AGS Suspension, 556, Body & Insert	1,691.60
153	SUPERIOR SCREENERS INC	Shirts for Lineman Rodeo	1,681.50
154	MIDCONTINENT ISO INC	April MISO Billing	1,665.17
155	DAKOTA SUPPLY GROUP	fittings for piping maintenance	1,654.97
156	TRIPWIRE INC	Support	1,628.93
157	MINNESOTA ENERGY RESOURCES CO	March 2017 Gas CC	1,623.90
158	SCHWEITZER ENGINEERING LAB IN	Relay, SEL 2407, GPS Clock,48-125V DC/AC	1,603.13
159	CDW GOVERNMENT INC	Wireless headset	1,583.58
160	STUART C IRBY CO INC	Pedestal Cover, Box Style, FG	1,560.00
161	BORDER STATES ELECTRIC SUPPLY	Deadend Recept, 15kV, 600A, NLB	1,558.98
162	RESCO	Crossarm, Wood, 8' HD	1,557.50
163	RESCO	Arrester, 10kV, Dist, Riser MOV	1,542.50
164	TENG PHIL	Travel, P.Teng, Employee Advance	1,521.46
165	PAYMENT REMITTANCE CENTER	Ethernet & Graphics for WES	1,514.64

Attachment: AP Board CRMO (7335 : a/p board listing)

ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
Consolidated & Summarized Below 1,000

166	WESCO DISTRIBUTION INC	Clamp, D.E., CRP, Assm, 556 ACSR	1,512.16
167	CLOWN ROUNDUP LLC	Clowns for Arbor Day 2017	1,500.00
168	BORDER STATES ELECTRIC SUPPLY	Anchor, Triple Helix, 1.50 Sq. Shaft	1,497.90
169	GRAYBAR ELECTRIC COMPANY INC	Saw, FG Square Pole 1.250" x 6', 4106	1,475.64
170	GRAINGER INC	Safety Cabinets	1,460.34
171	STUART C IRBY CO INC	Switch, Air, 2 Arm, 1ph, 600A, NLB	1,401.00
172	VICTORY BAPTIST CHURCH	CIP Conserve & Save Rebates	1,354.50
173	ACTON MOBILE dba	WES Jobsite Trailer Setup Takedown	1,353.03
174	THERMO ENVIRONMENTAL INSTRUME	42i-LS, Pump Assembly	1,325.25
175	CITY OF ROCHESTER	Q2 USGS Gauging Maint-37th St	1,298.88
176	PAYMENT REMITTANCE CENTER	Travel, PMI Semiar, Denver, Lodging	1,286.92
177	CITY OF ROCHESTER	W/C Fees	1,282.00
178	COURTYARD ROCHESTER	CIP Conserve & Save Rebates	1,260.00
179	DAKOTA SUPPLY GROUP	Digital voltage phasing meter	1,260.00
180	GARCIA GRAPHICS INC	layout & design & revisions : 2016 Annual report	1,250.00
181	MINNESOTA ENERGY RESOURCES CO	March 2007 Natual Gas SC	1,225.41
182	BORDER STATES ELECTRIC SUPPLY	U-Guard, 5.0" x 10', Steel	1,224.30
183	MAJESTIC TENTS AND EVENTS dba	2017 Arbor Day Tent	1,217.09
184	BOLTON AND MENK (P)	St. Mary's Ladder Modification	1,215.00
185	VEOLIA ES TECHNICAL SOLUTIONS	2017 High intensity disposal	1,197.75
186	RESCO	Deadend Recept, 15kV, 600A, NLB	1,187.25
187	FERGUSON WATERWORKS	Valve Box Top Section 16.0	1,165.80
188	PAYMENT REMITTANCE CENTER	Travel,D Donahue, PMI Semiar, Denver, Lo	1,142.92
189	EPLUS TECHNOLOGY INC	2014-2017 Total Care Support	1,135.00
190	MAPLEWOOD HOMES LLC	CIP Conserve & Save Rebates	1,120.00
191	ONLINE INFORMATION SERVICES I	2017 Utility Exchange Report	1,119.14
192	ROCHESTER ARMORED CAR CO INC	2017 Pick Up Services	1,104.40
193	GRAYBAR ELECTRIC COMPANY INC	Meter Hub Close Off Plate	1,087.99
194	STUART C IRBY CO INC	Trans, PM, 1ph, 25kVA, 13.8/8, 240/120	1,082.00
195	DAKOTA SUPPLY GROUP	Insulated Protective Cap w/Grd, 200A	1,072.00
196	INNER TITE CORP	Meter Superior Box Lock	1,054.34
197	INSTITUTE FOR ENVIRONMENTAL	Asbestos Consulting Services	1,050.00
198	PAYMENT REMITTANCE CENTER	Training-J Olson	1,022.44
199	PAYMENT REMITTANCE CENTER	Training-M Elpert	1,022.44
200	MAPLEWOOD HOMES LLC	CIP Conserve & Save Rebates	1,010.00

Price Range Total: 254,025.58

0 to 1,000 :

206	REBATES	Summarized transactions: 240	38,937.44
207	EXPRESS SERVICES INC	Summarized transactions: 29	21,261.87
208	PAYMENT REMITTANCE CENTER	Summarized transactions: 60	11,314.27
209	VIKING ELECTRIC SUPPLY INC	Summarized transactions: 77	8,767.76
210	BORDER STATES ELECTRIC SUPPLY	Summarized transactions: 28	7,812.79
211	TEREX UTILITIES INC	Summarized transactions: 15	7,037.24
212	MN PIPE & EQUIPMENT	Summarized transactions: 23	6,600.10
213	STUART C IRBY CO INC	Summarized transactions: 28	6,115.34
214	Customer Refunds (CIS)	Summarized transactions: 35	5,509.68
215	WESCO DISTRIBUTION INC	Summarized transactions: 18	4,590.76
216	ARNOLDS SUPPLY & KLEENIT CO (Summarized transactions: 12	4,433.73
217	CINTAS CORP	Summarized transactions: 86	3,297.43
218	DAKOTA SUPPLY GROUP	Summarized transactions: 16	3,247.96
219	U S A SAFETY SUPPLY	Summarized transactions: 13	3,056.21
220	CRESCENT ELECTRIC SUPPLY CO	Summarized transactions: 20	2,958.04

ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
Consolidated & Summarized Below 1,000

221	HELENA CHEMICAL COMPANY	Summarized transactions: 12	2,168.51
222	TRUCKIN' AMERICA	Summarized transactions: 6	2,161.97
223	METRO SALES INC	Summarized transactions: 3	1,936.30
224	JACKSON SIDNEY	Summarized transactions: 8	1,780.88
225	GRAYBAR ELECTRIC COMPANY INC	Summarized transactions: 6	1,743.22
226	CITY OF ROCHESTER	Summarized transactions: 6	1,610.93
227	CARQUEST AUTO PARTS	Summarized transactions: 30	1,575.38
228	SEEME PRODUCTIONS LLC	Summarized transactions: 2	1,570.00
229	WORKS COMPUTING INC	Summarized transactions: 2	1,451.80
230	SUTTON JEREMY	Summarized transactions: 6	1,380.51
231	DZUBAY TONY	Summarized transactions: 13	1,359.55
232	FLUKE ELECTRONICS INC	Summarized transactions: 9	1,285.39
233	GRAINGER INC	Summarized transactions: 22	1,257.14
234	INNOVATIVE OFFICE SOLUTIONS L	Summarized transactions: 19	1,231.24
235	REINDERS INC	Summarized transactions: 6	1,162.85
236	AMAZON.COM	Summarized transactions: 10	1,084.35
237	BENSON ANTHONY	Summarized transactions: 4	1,038.68
238	INGERSOLL RAND COMPANY	Summarized transactions: 6	1,005.90
239	FORBROOK LANDSCAPING SERVICES	Summarized transactions: 1	981.00
240	BADGER METER INC (P)	Summarized transactions: 6	960.95
241	REBATES	Summarized transactions: 34	950.00
242	ON SITE SANITATION INC	Summarized transactions: 2	948.04
243	CLEMENTS CHEVROLET CADILLAC S	Summarized transactions: 7	946.20
244	BOLTON AND MENK (P)	Summarized transactions: 2	945.00
245	OPEN ACCESS TECHNOLOGY	Summarized transactions: 1	933.23
246	MSC INDUSTRIAL SUPPLY CO INC	Summarized transactions: 14	915.39
247	SHANNON MCWILLIAMS	Summarized transactions: 1	907.50
248	FASTENAL COMPANY	Summarized transactions: 15	901.43
249	TOTAL TOOL SUPPLY INC (P)	Summarized transactions: 3	898.80
250	HACH COMPANY	Summarized transactions: 4	892.49
251	STEVE BENNING ELECTRIC	Summarized transactions: 3	889.00
252	ROCH PLUMBING & HEATING CO IN	Summarized transactions: 3	885.22
253	CENTURYLINK	Summarized transactions: 5	859.62
254	ALDEN POOL & MUNICIPAL SUPPLY	Summarized transactions: 4	845.90
255	PROPERTY RECORDS OLMSTED COUN	Summarized transactions: 4	832.00
256	POMPS TIRE SERVICE INC	Summarized transactions: 1	822.47
257	K A A L TV LLC	Summarized transactions: 1	800.00
258	BANKS JOSHUA C	Summarized transactions: 1	800.00
259	MCMASTER CARR SUPPLY COMPANY	Summarized transactions: 32	790.91
260	ERC WIPING PRODUCTS INC	Summarized transactions: 2	769.29
261	AUTHORIZE.NET	Summarized transactions: 1	762.75
262	MN GROUND WATER ASSOC	Summarized transactions: 2	760.00
263	LARSON MARK	Summarized transactions: 4	755.52
264	COMPREHENSIVE LOSS MANAGEMENT	Summarized transactions: 1	742.78
265	RESCO	Summarized transactions: 4	735.14
266	MENARDS ROCHESTER SOUTH	Summarized transactions: 3	728.37
267	FERGUSON WATERWORKS	Summarized transactions: 5	726.01
268	ALTEC INDUSTRIES INC	Summarized transactions: 2	698.06
269	FIRST CLASS PLUMBING & HEATIN	Summarized transactions: 5	693.06
270	OLSEN CHAIN & CABLE CO INC	Summarized transactions: 12	681.84
271	CINTAS CORP	Summarized transactions: 4	652.92
272	ZEE MEDICAL SERVICE INC (P)	Summarized transactions: 3	652.70
273	GARCIA GRAPHICS INC	Summarized transactions: 7	652.00
274	USA BLUE BOOK DBA	Summarized transactions: 2	636.63
275	SCHLINK WALTER	Summarized transactions: 4	629.65

Attachment: AP Board CRMO (7335 : a/p board listing)

ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
Consolidated & Summarized Below 1,000

276	MAYASICH PAUL	Summarized transactions: 1	625.00
277	NORTHERN / BLUETARP FINANCIAL	Summarized transactions: 12	609.85
278	MINNESOTA ENERGY RESOURCES CO	Summarized transactions: 3	603.46
279	A P I SUPPLY INC	Summarized transactions: 1	590.48
280	TRENCHERS PLUS INC	Summarized transactions: 4	586.94
281	NETWORKFLEET INC	Summarized transactions: 10	584.31
282	SOUTHERN MN AUTO SUPPLY INC	Summarized transactions: 7	578.53
283	GOPHER STATE ONE CALL	Summarized transactions: 1	563.63
284	GOPHER STATE ONE CALL	Summarized transactions: 1	563.62
285	FEDEX SHIPPING	Summarized transactions: 14	563.11
286	POST BULLETIN CO	Summarized transactions: 2	554.24
287	ALL SYSTEMS INSTALLATION dba	Summarized transactions: 1	510.86
288	MILESTONE MATERIALS	Summarized transactions: 2	506.05
289	FAST PHONE REPAIR LLC	Summarized transactions: 3	500.61
290	PITNEY BOWES PURCHASE POWER	Summarized transactions: 1	500.00
291	NU-TELECOM dba	Summarized transactions: 1	499.23
292	MENARDS ROCHESTER NORTH	Summarized transactions: 9	485.57
293	HIMEC INC (P)	Summarized transactions: 1	480.94
294	PRAIRIE ENTERPRISES OF ROCHESTER	Summarized transactions: 1	480.94
295	S J TURBINE INC	Summarized transactions: 1	480.94
296	PAYMENT REMITTANCE CENTER	Summarized transactions: 1	476.00
297	ASPLUNDH TREE EXPERT CO INC (Summarized transactions: 1	471.00
298	NAPA AUTO PARTS (P)	Summarized transactions: 12	462.05
299	SAFETY SIGNS LLC	Summarized transactions: 1	447.27
300	SKYWATCH SERVICES dba	Summarized transactions: 1	427.50
301	ADKINS TERRY L	Summarized transactions: 3	427.09
302	SHORT ELLIOTT HENDRICKSON INC	Summarized transactions: 1	420.00
303	SCHWEITZER ENGINEERING LAB IN	Summarized transactions: 1	405.27
304	TRIPWIRE INC	Summarized transactions: 2	397.75
305	A T & T	Summarized transactions: 1	396.74
306	INNER TITE CORP	Summarized transactions: 4	383.24
307	LITTLE DAVID	Summarized transactions: 3	367.59
308	ACTON MOBILE dba	Summarized transactions: 1	366.36
309	MN SAFETY COUNCIL INC	Summarized transactions: 1	350.00
310	LAWSON PRODUCTS INC (P)	Summarized transactions: 8	347.64
311	VEOLIA ES TECHNICAL SOLUTIONS	Summarized transactions: 1	343.06
312	ADVANCED DISPOSAL SVC SOLID W	Summarized transactions: 1	340.32
313	BOEGE INSULATION INC	Summarized transactions: 1	336.06
314	GALVANIZERS INC	Summarized transactions: 1	335.55
315	DAKOTA SUPPLY GROUP	Summarized transactions: 3	335.22
316	WABASHA IMPLEMENT	Summarized transactions: 2	330.03
317	NOVASPECT INC	Summarized transactions: 3	326.80
318	CENTURYLINK	Summarized transactions: 1	325.95
319	BOBCAT OF ROCHESTER	Summarized transactions: 1	303.84
320	OSWEILER TODD	Summarized transactions: 1	297.46
321	WRIGHT TREE SERVICE INC	Summarized transactions: 1	295.96
322	LOCATORS AND SUPPLIES	Summarized transactions: 5	293.24
323	SNAP ON INDUSTRIAL	Summarized transactions: 1	289.43
324	SMS SYSTEMS MAINTENANCE SERVI	Summarized transactions: 2	286.75
325	CENTRAL STATES GROUP	Summarized transactions: 2	286.31
326	TRUCKIN' AMERICA	Summarized transactions: 1	276.25
327	McGRANN SHEA CARNIVAL STRAUGH	Summarized transactions: 2	276.00
328	T E C INDUSTRIAL INC	Summarized transactions: 1	275.20
329	BARR ENGINEERING COMPANY (P)	Summarized transactions: 1	270.00
330	CULLIGAN OF ROCHESTER INC	Summarized transactions: 4	262.00

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ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
Consolidated & Summarized Below 1,000

331	OLSON JEFF	Summarized transactions: 2	261.42
332	FRONTIER	Summarized transactions: 1	258.72
333	BLACKBURN MANUFACTURING CO	Summarized transactions: 2	255.60
334	GREAT RIVER ENERGY	Summarized transactions: 1	229.81
335	CLAREY'S SAFETY EQUIPMENT dba	Summarized transactions: 2	227.25
336	BATTERIES PLUS	Summarized transactions: 2	224.28
337	MCMASTER CARR SUPPLY COMPANY	Summarized transactions: 2	221.11
338	DAVIES PRINTING COMPANY INC	Summarized transactions: 2	211.08
339	MN DEPT OF REVENUE	Summarized transactions: 2	204.92
340	K & S HEATING & AIR COND INC	Summarized transactions: 1	202.00
341	FEDEX FREIGHT INC	Summarized transactions: 1	200.14
342	MN SUPPLY COMPANY INC	Summarized transactions: 1	194.65
343	DONAHUE DEBRA	Summarized transactions: 2	191.73
344	GLOBAL EQUIPMENT COMPANY	Summarized transactions: 3	190.77
345	KUEHN RENTAL LLC	Summarized transactions: 2	168.23
346	DELL MARKETING LP	Summarized transactions: 1	153.79
347	PULVER MOTOR SERVICE	Summarized transactions: 1	150.00
348	MISSISSIPPI WELDERS SUPPLY CO	Summarized transactions: 4	148.71
349	BAUER BUILT INC (P)	Summarized transactions: 2	145.68
350	CORPORATE WEB SERVICES INC	Summarized transactions: 1	135.00
351	MEYER BORGMAN & JOHNSON INC	Summarized transactions: 1	135.00
352	VERIFIED CREDENTIALS INC	Summarized transactions: 1	133.00
353	ALTERNATIVE TECHNOLOGIES INC	Summarized transactions: 1	130.00
354	JOHNSON PRINTING CO INC	Summarized transactions: 2	129.32
355	KOTSCHERVAR MARK	Summarized transactions: 3	126.26
356	VIKING ELECTRIC SUPPLY INC	Summarized transactions: 4	123.69
357	CONNEY SAFETY PRODUCTS LLC	Summarized transactions: 2	121.84
358	UNITED RENTALS INC	Summarized transactions: 1	116.35
359	CDW GOVERNMENT INC	Summarized transactions: 1	108.87
360	VANCO SERVICES LLC	Summarized transactions: 1	107.14
361	HACH COMPANY	Summarized transactions: 2	104.62
362	RONCO ENGINEERING SALES INC	Summarized transactions: 1	102.50
363	NYHUS STEVE	Summarized transactions: 2	99.50
364	SAIA MOTOR FREIGHT LINE LLC	Summarized transactions: 1	95.04
365	THOMPSON GARAGE DOOR CO INC	Summarized transactions: 1	95.00
366	VERIZON WIRELESS	Summarized transactions: 1	94.80
367	ALL SEASONS POWER & SPORT INC	Summarized transactions: 1	92.64
368	SARGENTS LANDSCAPE NURSERY IN	Summarized transactions: 1	85.39
369	SLEEPY EYE TELEPHONE CO	Summarized transactions: 1	84.76
370	FRANZ REPROGRAPHICS INC	Summarized transactions: 2	83.20
371	SWAGELOK MN INC (P)	Summarized transactions: 1	77.59
372	R D O - POWERPLAN OIB	Summarized transactions: 2	75.57
373	FLEISCHAKER SVEN	Summarized transactions: 1	75.00
374	AMOS BRADLEY	Summarized transactions: 1	75.00
375	NATL RURAL ELECTRIC COOP ASSN	Summarized transactions: 1	72.00
376	INTERSTATE MOTOR TRUCKS INC	Summarized transactions: 1	68.10
377	CHS ROCHESTER	Summarized transactions: 3	66.96
378	ALS LABORATORY GROUP TRIBOLOG	Summarized transactions: 1	63.65
379	J J KELLER & ASSOCIATES INC	Summarized transactions: 2	62.96
380	FASTENAL COMPANY	Summarized transactions: 2	62.85
381	HATHAWAY TREE SERVICE INC	Summarized transactions: 1	60.00
382	U S BANK	Summarized transactions: 1	55.36
383	MISTER CARWASH	Summarized transactions: 1	50.62
384	JEFFREY OLSON	Summarized transactions: 1	50.00
385	NORTHERN / BLUETARP FINANCIAL	Summarized transactions: 1	49.99

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ROCHESTER PUBLIC UTILITIES
A/P Board Listing By Dollar Range
For 04/11/2017 To 05/09/2017
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386	FERGUSON ENTERPRISES INC #165	Summarized transactions: 1	48.87
387	BARRY SCREEN PRINT CO dba	Summarized transactions: 3	44.35
388	OLMSTED COUNTY 4-H COUNCIL	Summarized transactions: 1	40.00
389	ADVANTAGE DIST LLC (P)	Summarized transactions: 1	40.00
390	CENTRAL FINANCE OLMSTED COUNT	Summarized transactions: 1	36.75
391	LANGUAGE LINE SERVICES INC	Summarized transactions: 1	36.50
392	MONSON STEVE	Summarized transactions: 1	35.50
393	MENARDS ROCHESTER SOUTH	Summarized transactions: 1	29.96
394	FEDEX SHIPPING	Summarized transactions: 1	25.59
395	MN POLLUTION CONTROL AGENCY	Summarized transactions: 1	25.00
396	MINNESOTA ENERGY RESOURCES CO	Summarized transactions: 1	23.44
397	NALCO COMPANY	Summarized transactions: 7	23.25
398	THERMO ENVIRONMENTAL INSTRUME	Summarized transactions: 1	18.14
399	A T & T MOBILITY	Summarized transactions: 1	15.57
400	BLEVINS JAN	Summarized transactions: 1	15.00
401	IDEXX DISTRIBUTION CORP	Summarized transactions: 1	13.36
402	UPS FREIGHT	Summarized transactions: 1	12.44
403	MENARDS ROCHESTER NORTH	Summarized transactions: 1	10.37
404	UPS FREIGHT	Summarized transactions: 1	9.21
405	THRONDSOIN OIL & LP GAS CO	Summarized transactions: 2	8.17
406	ADVANCED AUTO PARTS	Summarized transactions: 2	7.62
407			
408		Price Range Total:	222,454.88
409			
410		Grand Total:	19,710,589.12

Attachment: AP Board CRMO (7335 : a/p board listing)

FOR BOARD ACTION

Agenda Item # (ID # 7336)

Meeting Date: 5/23/2017

SUBJECT: RPU SOLARCHOICE Program

PREPARED BY: Jeremy Sutton

ITEM DESCRIPTION:

Local support for a community solar program has been vocalized within Rochester for quite some time. Staff has been engaged and working within SMMPA's solar working group to foster a program that satisfies members' needs, the agency's responsibilities, and most importantly, satisfies RPU's customers. Staff is happy to announce that a program is now available for approval.

UTILITY BOARD ACTION REQUESTED:

Staff requests that the Utility Board approve and recommend to the City Council, approval of the Rochester Public Utilities SOLARCHOICE Program.

COMMUNITY SOLAR AGREEMENT

ROCHESTER PUBLIC UTILITIES SOLAR-CHOICE PROGRAM

This Community Solar Agreement (this “Agreement”) is made and entered into as of _____, 20__, by and between the City of Rochester through Rochester Public Utilities (“Utility”), whose mailing address is 4000 East River Road, Rochester, MN 55906, and the customer identified as follows (“Customer”):

Customer Name: _____

Service Address: _____

City: _____

State: _____

Zip Code: _____

1. Community Solar Participation.

(a) The Utility’s wholesale supplier, has contracted with the owner of the Lemond Solar Center, with a nameplate capacity of five megawatts (5 MW) located in Owatonna, Minnesota (the “Lemond Solar Center”), and may contract with the owner of a new three megawatt (3 MW) solar facility to be constructed in Princeton, MN (the “Princeton Solar Center”). Together the Lemond Solar Center and Princeton Solar Center are collectively the “Community Solar Centers”.

(b) Customer hereby purchases, and Utility hereby agrees to provide to Customer on its bills for the Service Address noted above (the “Service Address”), production credits (“Production Credits”) associated with _____ Production Units (as defined below) allocated as provided in Section 4 below to a portion of the capacity of a Community Solar Center. Customer acknowledges and agrees that the Production Credits shall initially be for capacity at the Lemond Solar Center but the Utility may, at its option and in its sole discretion, substitute such capacity for capacity at the Princeton Solar Center or equivalent solar facility located in Minnesota.

(c) For purposes of this Agreement, the terms below have the following meanings:

“**Production Unit**” means 335 watts of capacity (which is equal to one panel and is estimated to produce approximately an average of 501 kWh per year over the 12-year duration of the community solar agreement).

“**Customer Allocated Capacity**” means the capacity of the Production Units to which a customer subscribes. The Utility reserves the right to

limit the number of Production Units to which a customer may subscribe in accordance with the current Utility SOLARCHOICE program.

“Environmental Attributes” means any and all rights, credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, resulting from the environmental or renewable characteristics or attributes of the Community Solar Centers or the avoidance of the emission of any gas, chemical, or other substance to the air, soil or water, which are deemed of value by the Utility, in each case now or hereafter created or recognized by any governmental authority or independent certification association or entity generally recognized in the electric power generation industry and generated by or associated with the Community Solar Centers, including without limitation any renewable energy credits or similar rights arising under any federal or state renewable portfolio standard, the Center for Resource Solutions’ Green-e program and any credits, offsets or similar rights arising under any federal or state carbon legislation or regulation or any voluntary or government-mandated carbon trading program. Environmental Attributes also include but are not limited to: (i) any avoided emissions of pollutants to the air, soil, or water such as (subject to the foregoing) sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and other pollutants; and (ii) any avoided emissions of carbon dioxide (CO₂), methane (CH₄), and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere.

2. **Consideration.** As consideration for Customer’s right to receive Production Credits pursuant to this Agreement, the Customer will pay to Utility upon execution of this Agreement according to one of the following selections:

a **Twelve Year Term** the sum of \$ _____ , based on _____ Production Units at \$650 per Production Unit for a Term of twelve years.

b **Twelve Year Term (Financed)** the sum of \$ _____ , based on _____ Production Units at \$650 per Production Unit for a Term of twelve years. Customer agrees to pay for subscribed Production Units in 12 equal monthly payments applied to their bill. Failure to make payments terminates this agreement and results the return of all payments minus \$100 administrative fee and the cost of energy credits already received.

3. **Term; Early Termination.** This Agreement shall be effective on the date of execution and shall continue until December 31, 2029 (the “Term”). This Agreement shall terminate in the event Customer has moved out of the Utility service territory and has not, within 90 days after such move, assigned the Agreement in accordance with the provisions of Section 6., such a termination shall result in forfeiture of all future Production Credits.

4. **Solar Energy Credit.**

(a) Beginning January 1, 2018 and continuing during the Term, Customer will receive a Production Credit for Customer's Allocated Capacity (calculated as provided below) as a kWh credit on the monthly invoices for electric service provided by Utility to the Service Address. The Production Credit will be applied to offset the kWh energy charge on each monthly invoice.

(b) The Production Credit for Customer's Allocated Capacity will be determined by dividing the total actual monthly kWh energy production of the applicable Community Solar Center in the prior month by the total number of Production Units. The resulting amount will be the Production Credit in kWh allocated per Production Unit.

5. **Tax Incentives**

(a) The owners of the Community Solar Centers retain the investment tax credits for the project so Customers are not eligible to claim investment tax credits. The Utility is not aware of any other tax incentives available to Customers. Customers are encouraged to contact their personal tax professional for advice and guidance before enrolling.

6. **Transfer/Assignment.**

(a) Customer may, with the prior written consent of Utility, (i) change the Service Address for which the Production Credits will apply to another Residential Service Address within Utility's service territory for which Customer is obligated to pay Utility for electric service, or (b) assign this Agreement to another individual or entity provided such assignee's Residential Service Address is located within Utility's service territory. Customer must request Utility's consent of any such proposed change or assignment in writing at least 30 days prior to the proposed effective date of such change or assignment, which notice must include:

1. Customer's name and mailing address;
2. The current Service Address;
3. The new Service Address (if applicable);
4. The name of the individual or entity to whom Customer is requesting to assign this Agreement (if applicable) and the consideration (if any) proposed to be provided to Customer for such assignment; and
5. The proposed effective date of such proposed change or assignment.

(b) Subscriptions paid through the financing option must be paid in full prior to assigning a different Service Address or Customer.

(c) Utility's determination as to whether to consent to any proposed change of Service Address or assignment of this Agreement shall be made in accordance with the then current Utility SOLARCHOICE program procedures.

(d) Upon any assignment of this Agreement consented to by Utility pursuant to this Section 6, Customer will surrender all right, title and interest in and to this Agreement. No assignment will extend the Term of this Agreement. [The value of any consideration to be provided to Customer for assignment of this Agreement may not exceed the purchase price that would apply if Utility were repurchasing Customer's Allocated Capacity and related rights to receive Production Credits as determined under Section 5(a).]

(e) Except as provided above in this Section 6, Customer may not assign, gift, bequeath or otherwise transfer any of its rights or obligations under this Agreement to any other individual or entity for any purpose, including without limitation as security for any debt or obligation. Any attempted assignment in violation of this Section 6 shall be null and void.

7. Miscellaneous Provisions.

(a) **Environmental Attributes.** Customer acknowledges that all Environmental Attributes associated with the Solar Energy Supply shall remain the property of Utility and Customer agrees not to make any statement contrary to such ownership.

(b) **Access; Ownership.** Customer will not have access to either Community Solar Center for any purpose. Customer will have no ownership, possession right or control of either Community Solar Center, and will have no rights or obligations with respect to the maintenance or operation of the Community Solar Centers. This Agreement does not convey to Customer any right, title or interest in or to any portion of any property (tangible or intangible, real or personal) underlying or comprising any portion of the Community Solar Centers.

(c) **No Reliance.** Customer is not relying on any representation, warranty or promise with respect to the Utility SOLARCHOICE program or the Community Solar Centers made by or on behalf of Utility. **CUSTOMER ACKNOWLEDGES AND AGREES THAT NONE OF THE UTILITY OR THE OWNER OF EITHER COMMUNITY SOLAR PROGRAM IS PROVIDING ANY REPRESENTATION, WARRANTY, GUARANTY OR COMMITMENT WITH RESPECT TO (I) THE ACTUAL PRODUCTION FROM EITHER COMMUNITY SOLAR CENTER, IF ANY, (II) THE AMOUNT OF SOLAR ENERGY CREDIT, IF ANY, THAT WILL**

BE RECEIVED BY CUSTOMER PURSUANT TO SECTION 4 OF THIS AGREEMENT, OR (III) THE AMOUNT OF ANY COST SAVINGS, IF ANY, CUSTOMER MAY REALIZE BY PARTICIPATING IN THE SOLARCHOICE PROGRAM. CUSTOMER ACKNOWLEDGES AND AGREES THAT THE COMMUNITY SOLAR CENTERS ARE BEING USED IN THE UTILITY SOLARCHOICE PROGRAM ON AN AS IS, WHERE IS BASIS, AND WITHOUT WARRANTY, AND MAY FAIL TO PRODUCE OR DELIVER ANY ELECTRIC ENERGY, MAY DELIVER LESS ELECTRIC ENERGY THAN PROJECTED OR MAY HAVE A SHORTER THAN EXPECTED USEFUL LIFE. ANY WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY DISCLAIMED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

(d) **No Change to Rate.** Nothing in this Agreement shall be deemed to alter or modify any rate, charge, term or condition of the electric service provided by Utility to Customer or to modify in any way Customer's rights and obligations as a customer of Utility. All of Utility's rates, charges, and terms and conditions of electric service shall remain subject to change in accordance with applicable law at any time.

(e) **Notices.** All notices, requests, consents, and other communications to a party required under this Agreement must be in writing, delivered to the mailing address for such party stated above, and will be deemed delivered upon the earlier of (i) three business days after being deposited in the U.S. mail, postage prepaid, or (ii) the following business day after being delivered to a reputable overnight courier service.

(f) **Entire Agreement.** This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all previous proposals, whether oral or written, negotiations, representations, commitments, writings and all other communications between the parties. This Agreement may not be released, discharged, or modified except by an instrument in writing signed by a duly authorized representative of each of the parties.

(g) **Governing Law/Jurisdiction/Venue.** This Agreement shall be deemed to have been made in, and shall be construed under, the internal laws of the State of Minnesota, without regard to the principles of conflicts of laws thereof. The parties acknowledge and agree that a court of competent jurisdiction located in _____ **Olmsted** County, Minnesota shall have exclusive jurisdiction in any action or proceeding arising under or relating to this Agreement.

(h) **Binding on Successors.** This Agreement shall be binding on the heirs, personal and legal representatives, successors and permitted assigns of the Customer.

(i) **Counterparts.** This Agreement may be signed in any number of counterparts, each of which is an original, and all of which taken together constitute one single document.

(j) **Concurrence.** By executing this Agreement, the parties acknowledge that they: (a) enter into and execute this Agreement knowingly, voluntarily and willingly of their own volition with such consultation with legal counsel as they deem appropriate; (b) have had a sufficient amount of time to consider this Agreement's terms and conditions, and to consult an attorney before signing this Agreement; (c) have read this Agreement, understand all of its terms, appreciate the significance of those terms and have made the decision to accept them as stated herein; and (d) have not relied upon any representation or statement not set forth herein. Both parties wish to avoid any development or administrative delays associated with a legal challenge to any of the terms of this Agreement. As such, both parties agree that they will not challenge the legality of any term or condition found within this Agreement and specifically waive any and all legal objections they may have to any such term or condition. Notwithstanding any provision in this Agreement to the contrary, this clause will survive the termination or expiration of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

UTILITY:

[Utility]

By: _____
 Name: _____
 Title: _____

CUSTOMER:

[Customer]

By: _____
 Name: _____
 Title: _____



RESOLUTION

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, to approve and request Common Council approval of the Community Solar Program, titled Rochester Public Utilities SOLARCHOICE Program, to be effective January 1, 2018 through December 31, 2029.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 23rd day of May, 2017.

President

Secretary

FOR BOARD ACTION

Agenda Item # (ID # 7331)

Meeting Date: 5/23/2017

SUBJECT: 2017 In-Building Transformer Vault Installation Standard

PREPARED BY: Randy Anderton

ITEM DESCRIPTION:

During the development of a Destination Medical Center (DMC) project located within the downtown area of Rochester, the challenge of finding mutually agreeable real estate to place a pad-mounted transformer exterior to the building on the property arose. The developer asked why RPU's transformer could not be installed in a transformer vault located within the building. The 2015 Electric Rules and Regulations document did not address this type of installation. RPU staff then worked with a consulting firm during the 2016 calendar year to develop a standard for this type of installation.

The following list is intended to highlight what staff feels are significant requirements outlined In-Building Transformer Vault Installation Standard:

- 1) The vault shall be under the sole control of RPU and accessible to authorized RPU personnel at all times. Additionally, future expansion plans by the customer must not affect accessibility to the vault.
- 2) The customer will be required to reimburse RPU for the difference in cost between a standard pad-mounted transformer service and the construction cost for the vault, including all labor, materials, and overheads.
- 3) RPU will require a signed agreement in the form of a declaration that would be recorded against the property for the vault installation.
- 4) Vaults will only be allowed within the core downtown area of Rochester as defined by RPU. All customers interested in a vault installation must contact RPU's engineering department to see if their project falls within this defined area.

FOR BOARD ACTION

Agenda Item # (ID # 7331)

Meeting Date: 5/23/2017

- 5) Vaults shall be located either at grade along an outside exterior wall or no more than one (1) floor below the building's exterior finished grade. Under either option, as long as the access path floor grade is 3% or less, RPU will move the transformer(s) into and out of the vault. If the access path floor grade exceeds 3%, then the customer is responsible to pay for and provide the means to move, install, relocate (if required), or replace RPU's facilities.

- 6) The customer's main switch and metering panel will be located outside of and adjacent to the vault.

UTILITY BOARD ACTION REQUESTED:

Staff requests the Utility Board adopt the proposed In-Building Transformer Vault Installation Standard, effective on June 1, 2017.

In-Building Transformer Vault Installation Standard

Rochester Public Utilities

6/01/2017



In-Building Transformer Vault Installation Standard

REVISION DETAILS

Rev	Issue Date	Issued For	Prep By	App By	Notes
0	6/01/2017	Original	BJK	SJC	

1. **Scope, Cost, and Agreement**

- 1.1. This Standard outlines the minimum structural, electrical, and mechanical requirements for the installation of an in-building transformer vault by the Customer on private property.
- 1.2. The in-building transformer vault shall be under the sole control of RPU and accessible to authorized RPU personnel at all times. Future expansion plans by the Customer must not affect accessibility.
- 1.3. Unauthorized personnel shall not be admitted to the vault after the transformer(s) have been energized.
- 1.4. The Customer will be required to reimburse RPU for the difference in cost between a standard pad-mounted transformer service and the construction cost for the In-building transformer vault, including all labor, materials, and overheads.
- 1.5. RPU will require a signed agreement in the form of a declaration that would be recorded against the property for the In-building transformer vault installation. Terms for this agreement will be defined based on the location of the In-building transformer vault and the layout option determined by RPU.

2. **Allowable Installations**

- 2.1. All in-building transformer vault installations require prior approval from RPU's Engineering Department. Prior approval shall be obtained by the Customer during the City of Rochester's planning and zoning approval process for the project.
- 2.2. In-building transformer vaults shall only be allowed within the core downtown areas of Rochester. Contact RPU's Engineering Department to determine if your project falls within this defined area.

3. **Purpose**

- 3.1. Purpose of the in-building transformer vault is to isolate the transformer(s) and other equipment to confine any fire or oil spill that may be caused by the failure of any of the equipment.

4. **Accessibility**

4.1. Location

- 4.1.1. Preferably, the in-building transformer vault shall be located at grade along an outside exterior wall to permit good drainage, ventilation, and access.
 - Locate the vault at a place which can be approached by a truck for delivery or replacement of the transformer(s) and equipment.
 - A location at a parking or loading area is preferred.

- Provide an unobstructed level area at the entrance to the vault. The level area shall be large enough for moving RPU's equipment into and out of the vault.
- 4.1.2. Alternatively, the in-building transformer vault may be located no more than one (1) floor below the building's exterior finished grade under the following conditions:
 - A clear equipment access path between the vault and the building exterior or right-of-way is provided.
 - Sufficient horizontal and vertical clearance from the building's mechanical and electrical infrastructure for moving RPU's equipment into and out of the vault is provided.
 - The proposed path floor is smooth, without seams, ridges or pads and designed to support the weight of the transformer(s) and electrical equipment and machinery required for moving RPU's facilities into and out of the vault.
- 4.1.3. Under either option above, RPU will move the transformer(s) and equipment into and out of the in-building transformer vault provided the access path floor grade is 3% or less. If the provided access floor path grade exceeds 3%, the Customer shall be responsible to pay for and provide the means to move, install, relocate (if required), or replace RPU's facilities.
- 4.2. Requirements
 - 4.2.1. Locate the in-building transformer vault so that it can be ventilated to the building exterior without using ducts, if practical.
 - 4.2.2. Vault location shall be dry and not subject to running, standing, flooding, or infiltration of water.
- 4.3. Final Authority
 - 4.3.1. RPU's Engineering Department retains final authority for the exact location of the in-building transformer vault for each specific project.
- 5. **Vault Construction**
 - 5.1. Code Requirements
 - 5.1.1. All in-building transformer vaults shall be constructed in accordance with the latest adopted revision of the National Electric Code®, Article 450 Part III, any other applicable City of Rochester building codes, and this standard.
 - 5.2. Fire Rating
 - 5.2.1. Floors, walls, and ceiling of the vault shall have a minimum three (3) hour fire resistance rating. All penetrations shall be sealed to be three (3) hour fire rated.

5.3. Walls

- 5.3.1. The bottom 8 feet of wall, minimum, shall be solid concrete at least 6 inches thick. Above the solid concrete wall, it may be solid concrete or concrete-filled masonry units at least 6 inches thick.
- 5.3.2. Walls shall be continuous and free of holes, deep scars, cracks, or other breaks.

5.4. Floors and Ceilings

- 5.4.1. Floors and ceilings of the vault shall be constructed of solid concrete at least 6 inches thick.
- 5.4.2. Floor shall be smooth, without seams, ridges or pads.
- 5.4.3. Floor shall slope to a sump of 12" diameter, (or one (1) foot square), with 12" minimum depth. A grated cover will be required. The sump shall not be connected to the sewer system.
- 5.4.4. Floor shall be adequately reinforced to support the point loads specified by RPU for its transformer(s) and equipment.
- 5.4.5. The minimum ceiling height of the vault will depend on maximum transformer rating to be accommodated. The maximum ceiling height of the vault shall be no greater than eighteen (18) feet.

5.5. Doorways and Openings

- 5.5.1. All vault doors shall be NFPA 80 Class A and have a 3-hour fire rating. Vault doors shall not have any vents or other types of openings.
- 5.5.2. Vault shall have at least two (2) means of entrance/exit from it arranged to meet the requirements of National Electric Code® Article 110.33.
- 5.5.3. A sign reading "DANGER-HIGH VOLTAGE WITHIN-KEEP OUT-ACCESS RESTRICTED TO QUALIFIED PERSONNEL ONLY" shall be furnished and installed by RPU on the outside of all vault doors.
- 5.5.4. Vault doors shall swing out a minimum of 180 degrees from the vault opening. Door swing area shall be protected by bollards if vehicles or mobile equipment could enter the door swing area.
- 5.5.5. Vault door hinges shall be extra heavy-weight steel or stainless steel with bearings and non-removable pins. Furnish and install a minimum of one hinge for every thirty (30) inches of door height.

- 5.5.6. Equip vault doors with listed panic hardware and locks and hinges/latches that permit opening by simple pressure or torque on the operating components.
- 5.5.7. The Customer shall provide a hasp or other suitable means to accommodate RPU's lock on the entry doors.
- 5.5.8. Door Sills
 - All vault doorways shall have a removable, oil containment sill of 4 inches minimum located under each door opening
 - Constructed of masonry or concrete and sealed, minimum of 4" height, with adequate strength and durability to withstand normal operations and moving of equipment. Steel sills may also be acceptable.
- 5.6. Pulling Irons
 - 5.6.1. Install behind concrete reinforcing steel (rebar) and tie to the rebar. Locate opposite (± 12 inches) the primary cable duct bank entrance(s) on the wall or ceiling.
 - 5.6.2. Pulling irons shall be rated for an ultimate (breaking) strength of 10,000 pounds.
 - 5.6.3. Pulling irons shall provide a minimum 1.5" diameter round gap for hook or shackle attachment.
 - 5.6.4. RPU's Engineering Department will determine the exact pulling iron location(s) for each specific project
- 5.7. Vibration Transmission
 - 5.7.1. Soundproofing or acoustic isolation of the vault transformer(s) is at the Customer's expense and is their sole responsibility.
 - 5.7.2. Should the Customer desire to support RPU's transformer(s) and equipment on soundproofing devices, any such device should be fabricated as follows:
 - Constructed so that long term settlement or deformation must not exceed $\frac{1}{4}$ " given the weights involved and variation in vault temperature
- 5.8. Ventilation
 - 5.8.1. Ventilation systems shall be provided to dispose of heat from transformer total losses in accordance with IEEE Standard C57.12.00 requirements (40°C maximum ambient temperature with a 24-hour average of 30°C)

- 5.8.2. The vault shall be mechanically ventilated. Ventilation system shall supply a minimum of 1.6 cubic-feet-per minute (cfm) of air per kVA of transformer capacity. A positive or negative pressure ventilation system shall supply air to the vault. Ventilation ducts shall not, under any circumstances, tie into the building's ventilation system. Ensure good turbulence within the vault to aid heat transfer and avoid hot spots within the room.
- 5.8.3. Ventilation capacity shall be furnished for the maximum transformer capacity of the vault (2500 kVA), even though the initial transformer installation may be less than the maximum capacity. The ventilation design shall be submitted to RPU for review.
- 5.8.4. The Customer is responsible for providing power and maintaining the vault ventilation system, including the fans, to ensure proper and continued operation.
- 5.9. Arrangement and Location of Ventilation Equipment
 - 5.9.1. Exercise extreme caution in the design, routing, and installation of the ventilating system. Exhaust openings to outside walls should not be located adjacent to other openings that serve or could serve as air intakes. Locate exhaust openings as far as possible from doors, windows, fire escapes, combustible materials, and at an adequate elevation above grade. Do not route ductwork through areas where system leaks (possibly initiated by explosion) could result in the release of potentially toxic gases or residue to occupied areas of the building.
 - 5.9.2. Vault ventilation fan(s) shall be installed outside of the vault and shall be controlled by thermostats located inside the vault.
 - 5.9.3. The vault ventilation system shall be controlled independently of the building's ventilation system and shall cause air to flow across the cooling fins of the transformer(s).
 - 5.9.4. The vault ventilation system shall direct airflow diagonally across the vault.
- 5.10. Vents
 - 5.10.1. Intake air shall be drawn from the exterior or from a parking garage. Do not draw air from conditioned space within the building.
 - 5.10.2. Intake vents shall be located at least 18 inches above the interior and exterior floors and shall be located in the lower half of the exterior walls of the vault.
 - 5.10.3. Exhaust vents shall be located in the upper half of the wall or in the roof or ceiling of the vault.

- 5.10.4. Exhaust shall vent directly to the outside of the building or shall be ducted, using three-hour rated material.
- 5.10.5. Exhaust cannot vent to a covered parking area or garage.
- 5.10.6. Vents shall not allow water to enter the vault.
- 5.11. Vent Covering
- 5.11.1. Ventilation openings shall be covered with 12-gauge minimum metal gratings, screens or louvers with no line of sight into vault.
- 5.11.2. If operable louvers are provided, they shall be controlled by the fan thermostat to open when the fan is energized.
- 5.12. Grounding
- 5.12.1. The Customer must provide a continuous grounding bus ring consisting of a minimum of 4/0 stranded copper wire (aluminum is not permitted). Tie wire to the structural steel of the building at two (2) or more points and run wire around the inside walls of the vault at 12" above finished floor. The grounding bus will be used for equipment grounding.
- 5.12.2. Grounding connections shall be Cadweld or equivalent.
- 5.13. Ceiling Channel Supports
- 5.13.1. Material
- Concrete insert channels shall be 12-gauge, galvanized Unistrut P3200 series (1-5/8 inch by 1-3/8 inch) or equivalent.
 - Embed channels in the vault ceiling concrete during construction with the bottom of the channel flush with the ceiling surface per manufacturer's instructions.
- 5.13.2. Spacing
- Space channel supports on 22-inch centers across the ceiling of the vault
 - Install channel supports level so that the threaded rods hang vertically when attached with standard channel nuts.
 - Space channel support ends 6 to 12 inches away from the vault walls. Confirm direction of channels with RPU's Engineering Department prior to construction.
- 5.14. Accessory Equipment
- 5.14.1. Lighting shall be provided by the Customer and be wired to the Customer's emergency power supply where applicable. As a rule, provide lighting equal to approximately 2 watts/square foot (25 foot candles) of floor space,

provided from at least two overhead fixtures with a control switch mounted adjacent to the vault door(s).

5.14.2. Wall outlets shall be provided by the Customer and wired to the Customer's emergency power supply where applicable. 120V wall outlets consisting of duplex receptacles, minimum rating 20 amperes, shall be provided so that no point on a wall is more than 15 feet away from an outlet. Provide a minimum of one (1) 20 ampere circuit dedicated solely to supply of the vault receptacles.

5.14.3. A telephone shall be installed within the vault room. Connect telephone to CO line run into vault by telephone service provider.

5.14.4. Incoming primary cables will not be laid on the vault floor. Wall racking or cable tray supports will be provided solely by the Customer. Bond all metal racking or cable tray supports to the vault ground system.

5.15. Maintenance

5.15.1. Should the vault require maintenance, it will be brought to the attention of the Customer and shall be promptly repaired with an RPU representative in attendance.

6. Customer Service Entrance

6.1. General Requirements

6.1.1. Customer shall provide National Electric Code® (NEC) sized bus duct into the in-building transformer vault for secondary connections from the vault transformer(s) unless another configuration is specifically approved by RPU.

6.1.2. All service entrance penetrations shall be fire sealed, including bus duct and conduits.

6.1.3. Phase rotation of bus duct service bars shall be clearly identified by the Customer. Provide phase marking below or adjacent to bus duct terminations with rotation specified.

6.1.4. Refer to layout drawings for bus duct penetration locations into the vault.

6.2. Service Entrance Bus Duct

6.2.1. Bus duct shall enter the vault in the area between 9 feet minimum and 12 feet maximum above the vault floor.

6.2.2. Bus duct shall extend a maximum of 12 inches away from the vault wall.

- 6.2.3. The ceiling clearance for Bus duct shall be a minimum distance of 18 inches from the top of the bus to the ceiling of the vault, unless otherwise accepted by RPU. This 18-inch clearance must extend for a minimum distance of four (4) feet in front of the Bus duct, away from the wall.
- 6.2.4. The minimum horizontal distance between two adjacent service entrance bus ducts shall be 3 feet. Label each bus duct with the service being fed.
- 6.2.5. Terminate bus duct with a flanged end with a minimum of 3-inch clearance (for copper) between all termination pads. Provide a connection to the ground bus.
- 6.2.6. Buses or connector plates shall be drilled to accept NEMA two-hole connectors. The connectors shall have holes at 1-3/4 inches on-center and spaced 2-1/4 inches apart to receive ½ inch bolts.
- 6.2.7. Maximum bus duct ampacity shall be limited by the transformer size(s) installed within the vault. Refer to the typical transformer vault layout exhibit drawings on the pages immediately following this Standard.

6.3. Submittal

- 6.3.1. Customer shall submit a dimensioned sketch of service entrance bus duct design, location of bus on the vault wall, and bus rating to RPU for review and acceptance.

7. **Metering**

- 7.1. The Customer's main switch and metering panel shall be located outside of and adjacent to the vault. Space at the metering panel shall be provided for the meter(s) and metering instrument transformers which RPU will provide. Metering equipment and layout must be approved by RPU's Electric Metering Department prior to installation.

8. **Vault Acceptance**

- 8.1. RPU will not energize any vault transformer(s) for temporary or permanent service until all vault specifications are met, a final checklist of vault specifications is approved by RPU's Engineering Department, and the in-building transformer vault has been turned over to RPU for occupancy.

9. **Customer Requested Outage for Work on Customer's Equipment**

- 9.1. RPU's control of the in-building transformer vault within a Customer-owned building is for the sole purpose of protecting the integrity of RPU's energy supply.
- 9.2. Upon written request, RPU can provide isolation and tagging (and grounding if requested) at RPU's primary isolation point on the supply line within the vault ahead of the Customer's service entrance equipment.

- 9.2.1. The Customer is expected and it is the Customer's responsibility to provide a qualified person or personnel as defined in the National Electric Code® during the planned outage timeframe.
- 9.2.2. The Customer is solely responsible for the protection of personnel who work on their de-energized equipment.

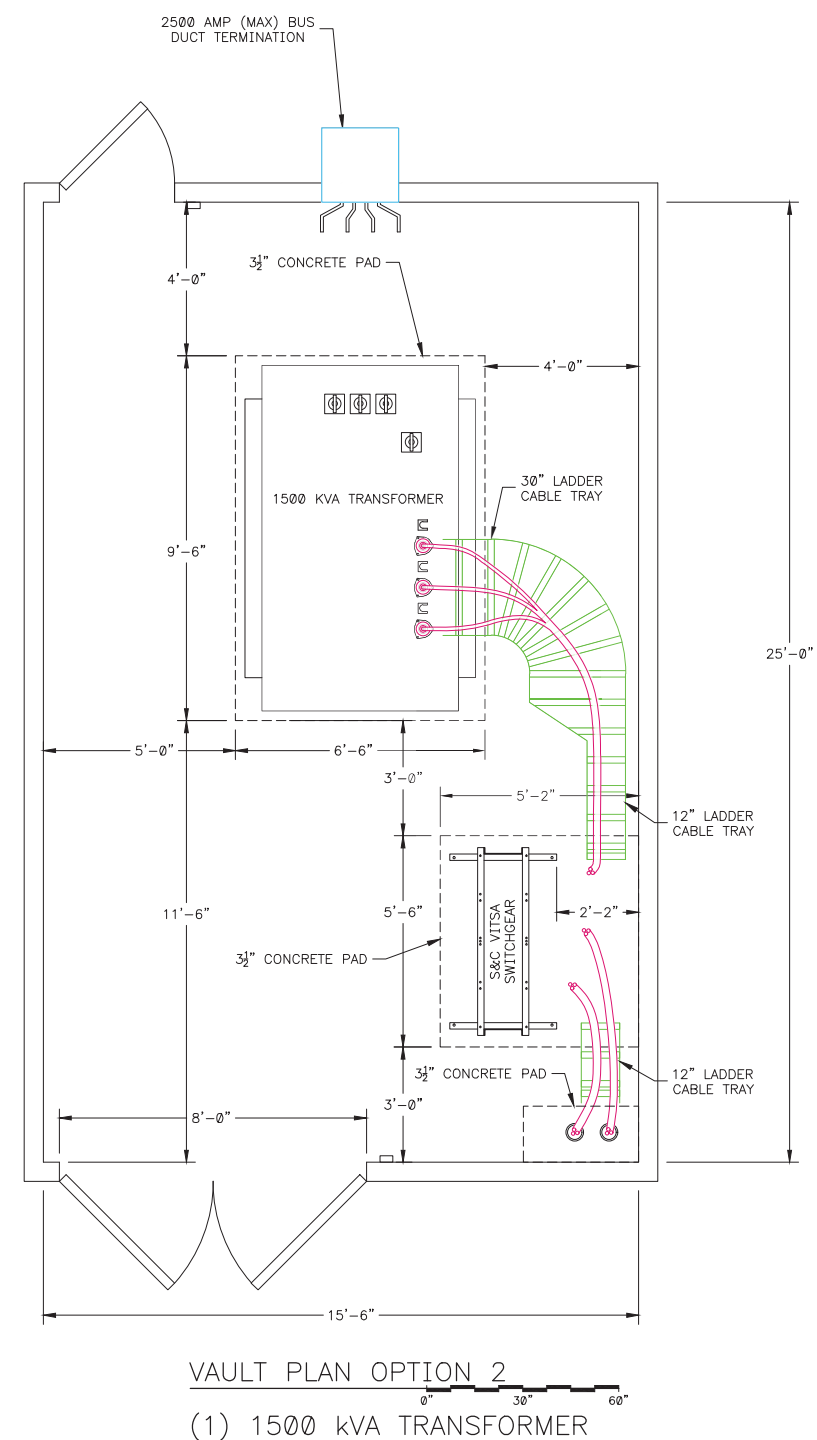
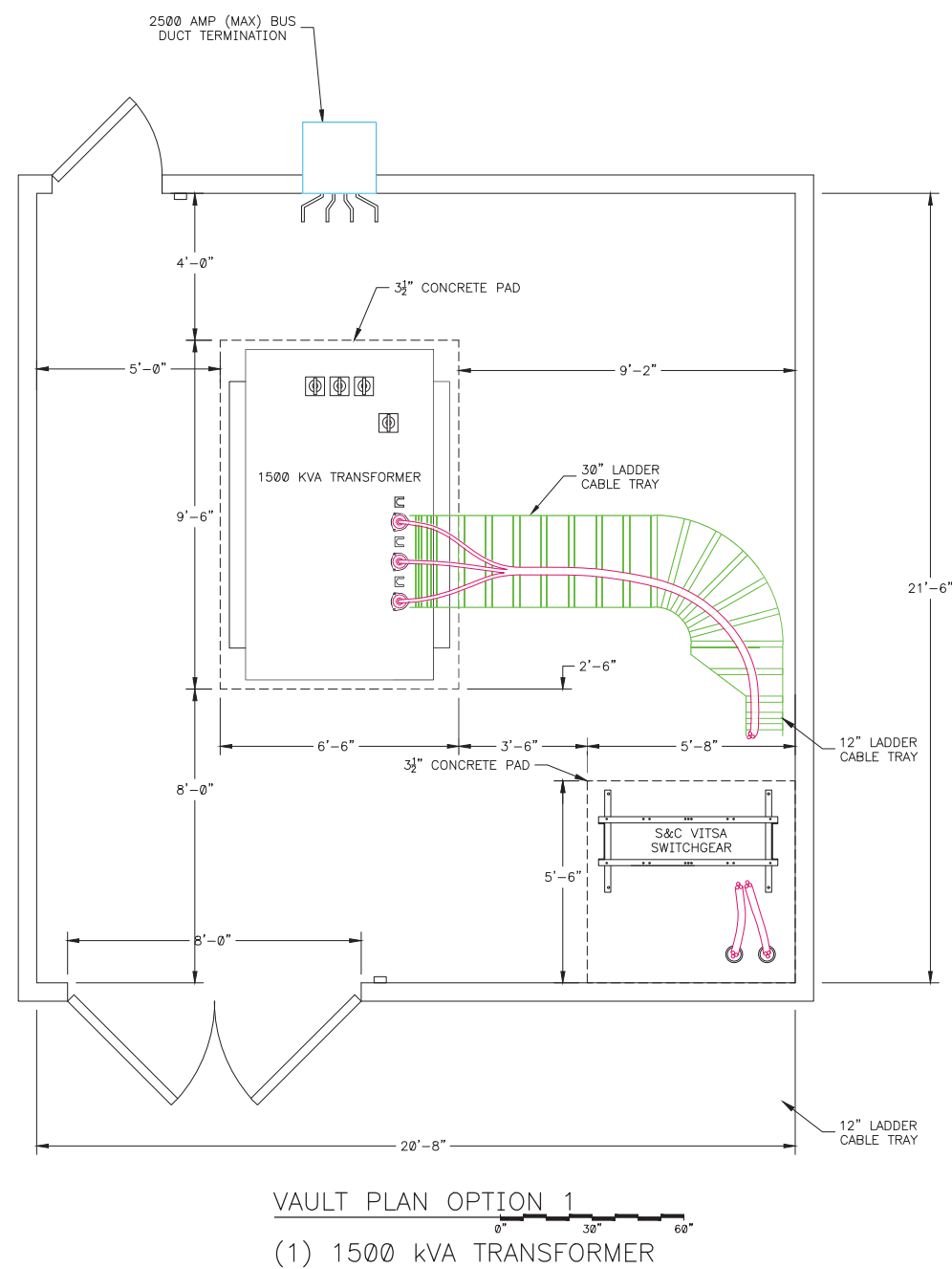
9.3. In the event that the requested Customer outage is of short duration and RPU's representative remains on-site to avoid a second trip, it is understood that they are doing so without any supervisory or oversight capacity relative to the Customer's work or personnel.

10. **Exhibit Drawings**

Refer to the typical transformer vault layout exhibit drawings on the pages immediately following this Standard for vault layout options and dimensions. Please contact RPU's Engineering Department for assistance in determining which typical transformer vault layout drawing would apply for your project requirements.

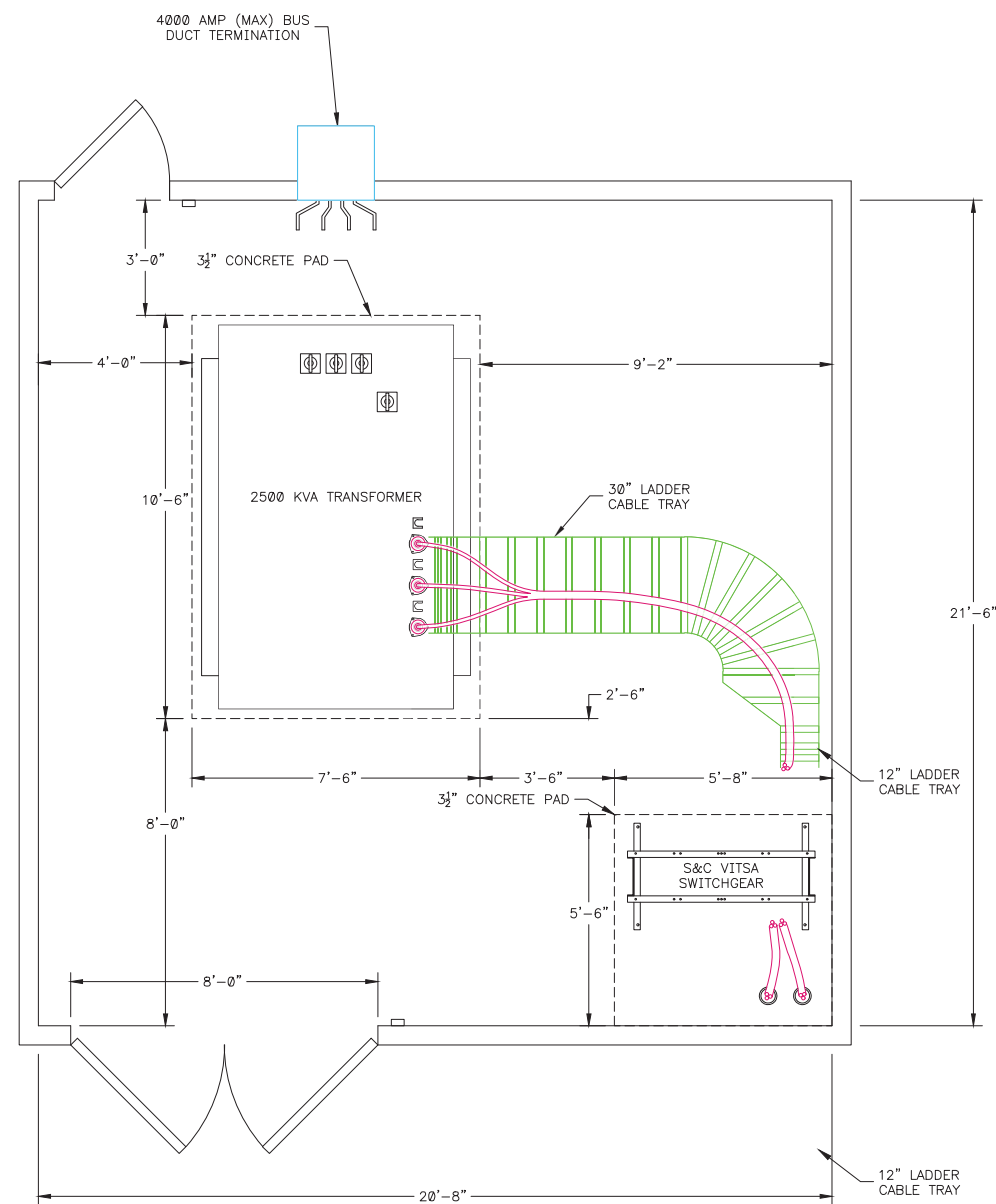
- Exhibit 10.1 – Vault with one (1) 1500 kVA transformer or smaller
- Exhibit 10.2 – Vault with one (1) 2500 kVA transformer
- Exhibit 10.3 – Vault with two (2) 2500 kVA transformers
- Exhibit 10.4 – Vault with three (3) 2500 kVA transformers (Option 1)
- Exhibit 10.5 – Vault with three (3) 2500 kVA transformers (Option 2)

EXHIBIT DRAWING 10.1

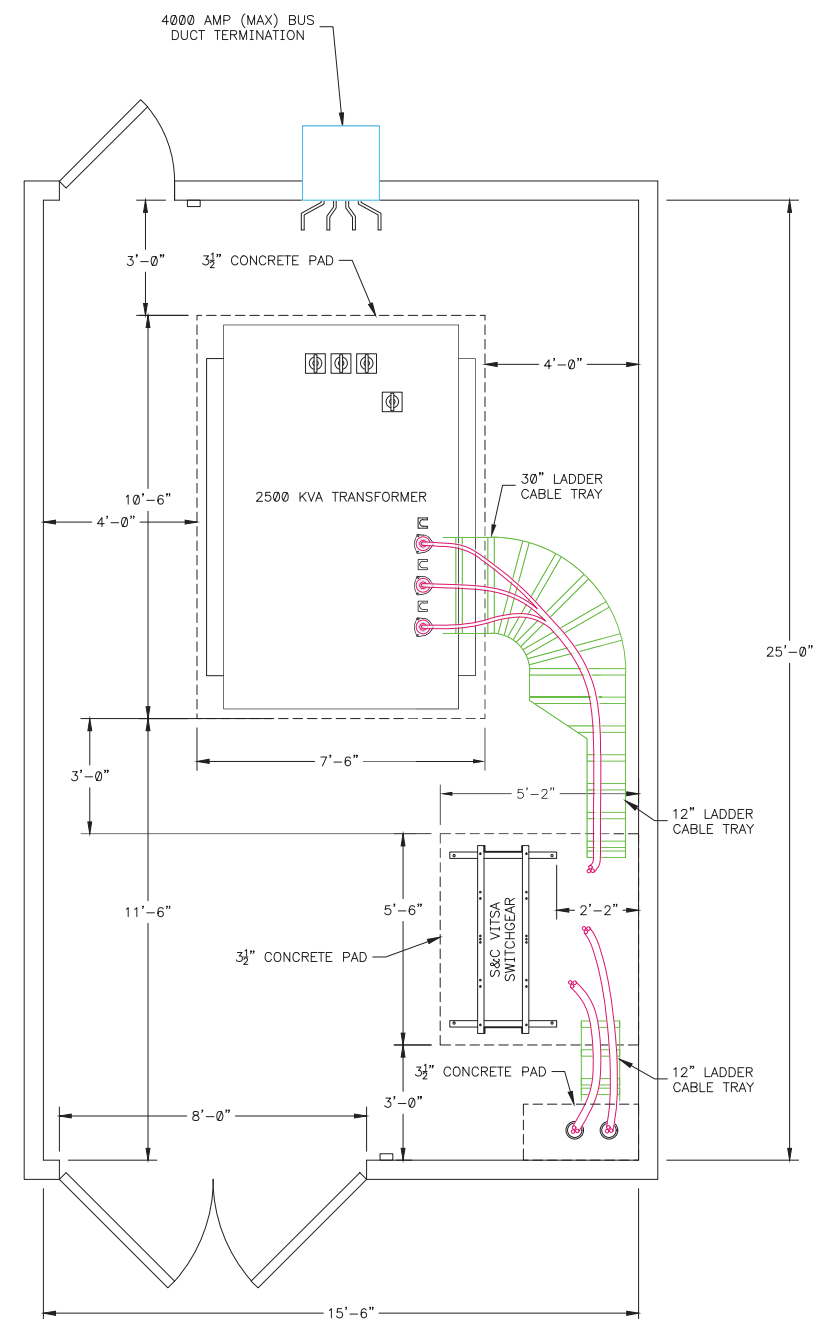


Room Ceiling Height = 11'-6"

EXHIBIT DRAWING 10.2



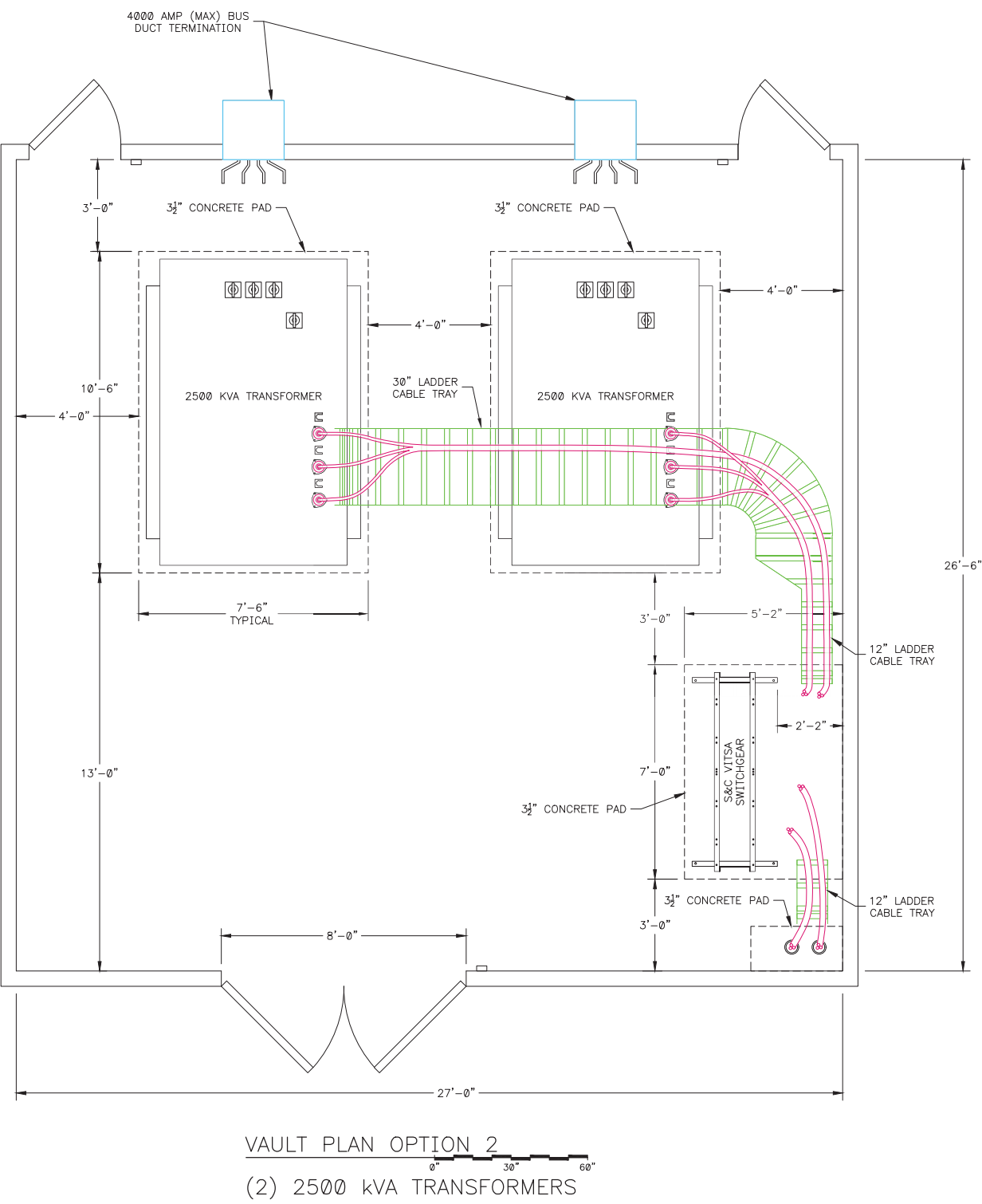
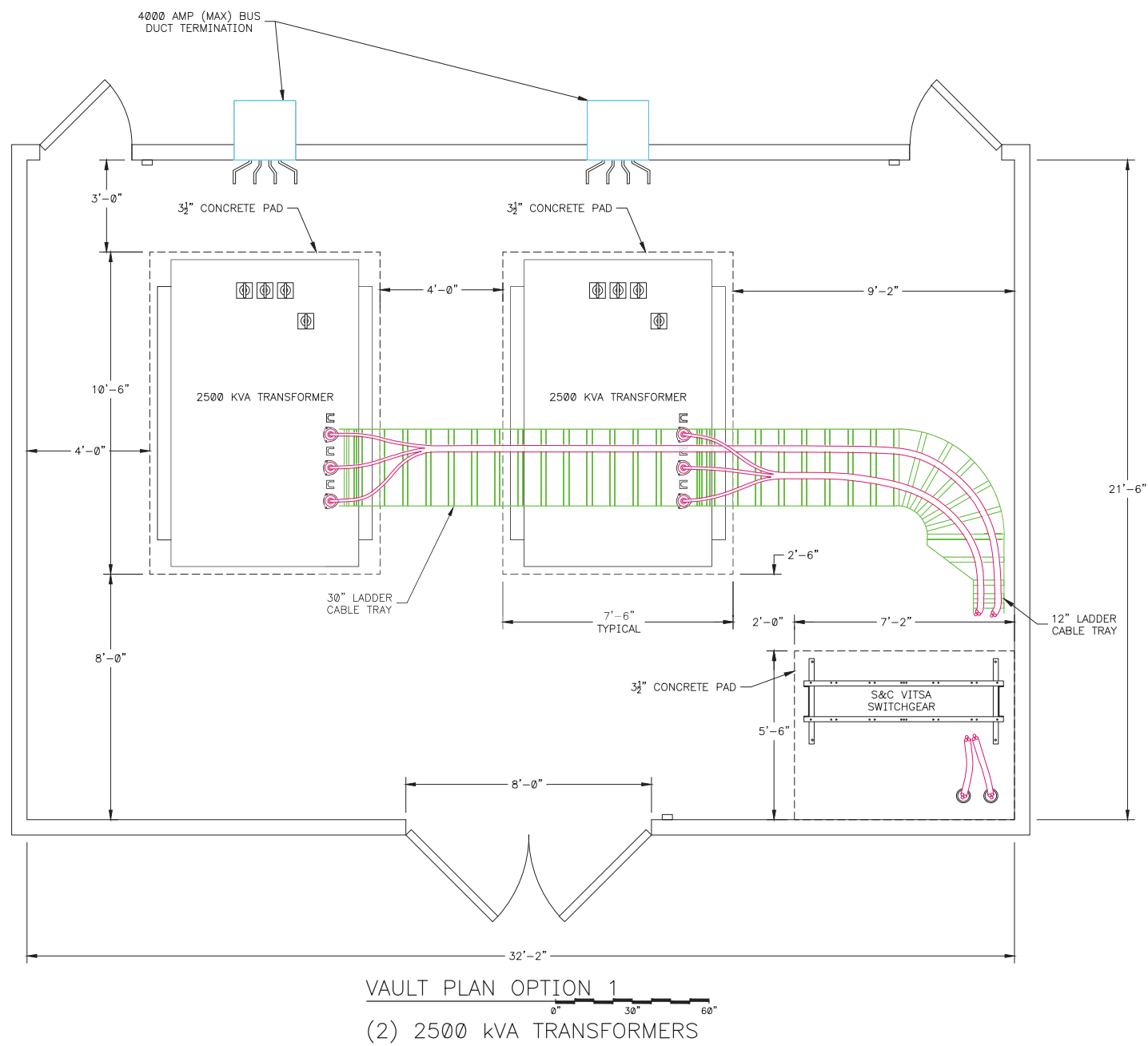
VAULT PLAN OPTION 1
 (1) 2500 kVA TRANSFORMER



VAULT PLAN OPTION 2
 (1) 2500 kVA TRANSFORMER

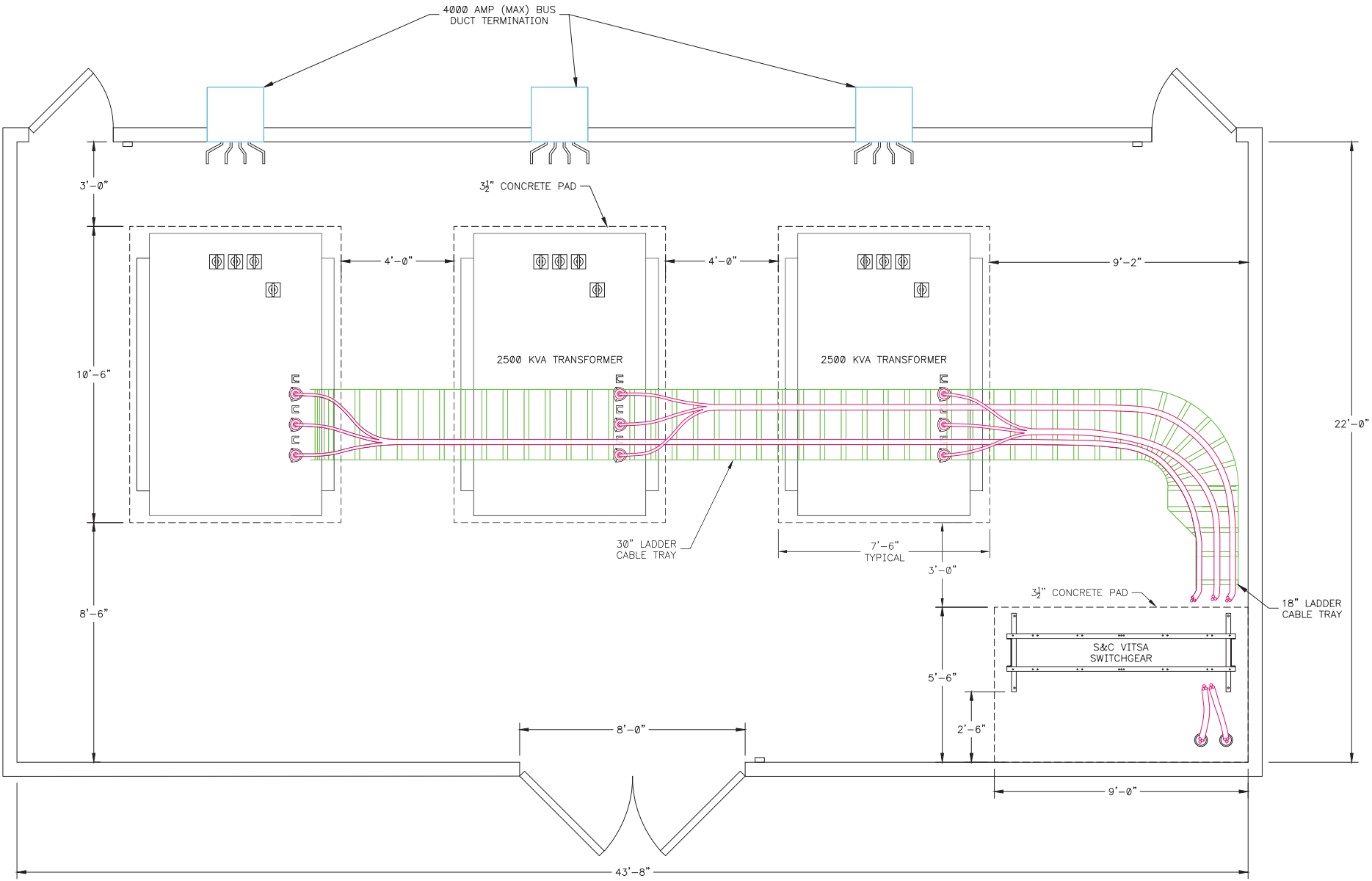
Room Ceiling Height = 13'-6"

EXHIBIT DRAWING 10.3



Room Ceiling Height = 13'-6"

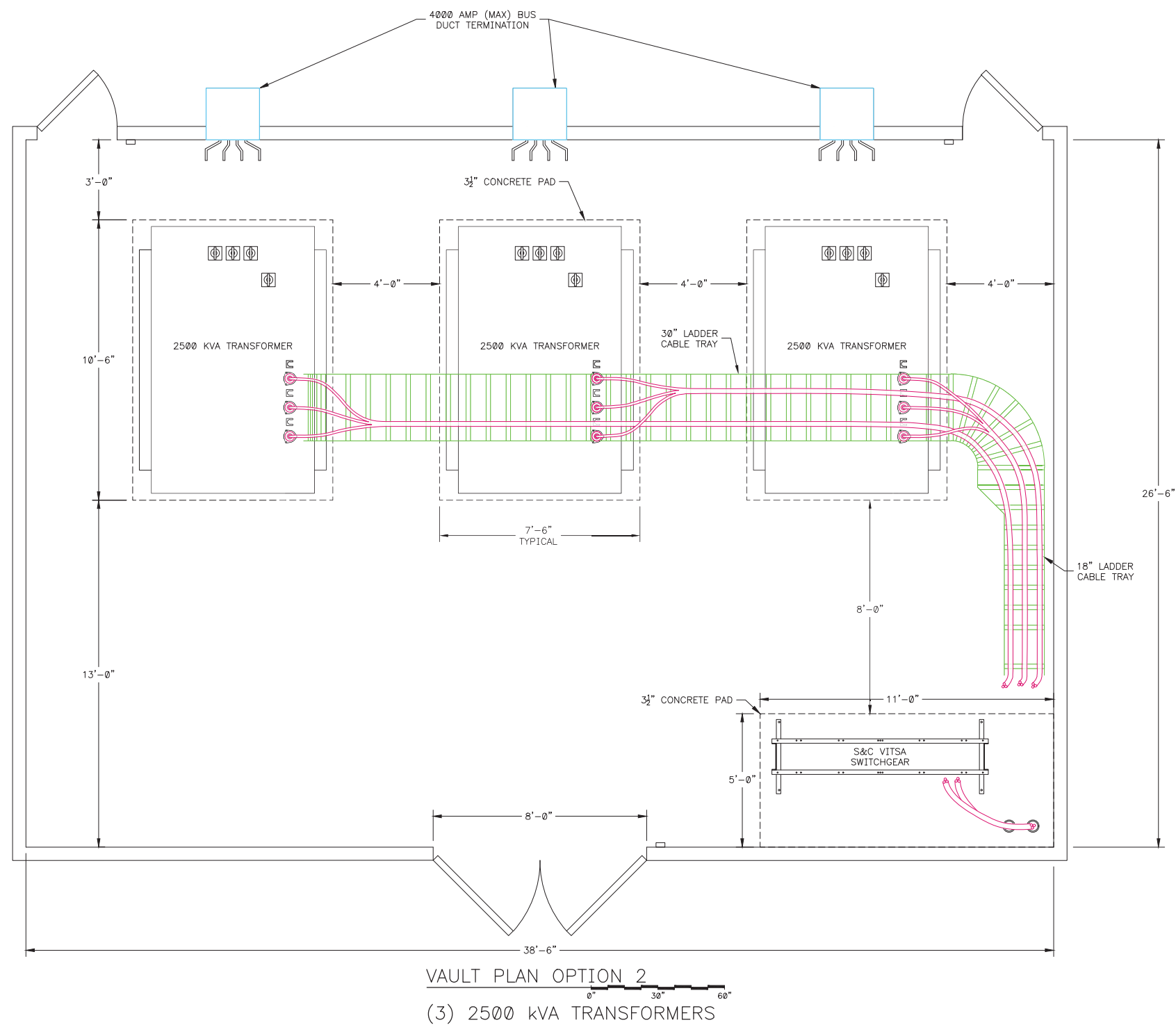
EXHIBIT DRAWING 10.4



VAULT PLAN OPTION 1
(3) 2500 kVA TRANSFORMERS

Room Ceiling Height = 13'-6"

EXHIBIT DRAWING 10.5



Room Ceiling Height = 13'-6"



RESOLUTION

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, to adopt the proposed In-Building Transformer Vault Installation Standard, effective on June 1, 2017.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 23rd day of May, 2017.

President

Secretary

FOR BOARD ACTION

Agenda Item # (ID # 7332)

Meeting Date: 5/23/2017

SUBJECT: 2017 Electric Service Rules and Regulations

PREPARED BY: Randy Anderton

ITEM DESCRIPTION:

RPU has written and published Electric Service Rules and Regulations since the early 1980's. These rules and regulations have been used by staff as a reference to provide consistent guidance to our customers and electrical contractors in regards to establishing new electric service to a property or to make revisions to an existing electrical service installation to a property.

The current version of the Electric Rules and Regulations was published and adopted in June 2015. RPU staff is attempting to update and revise this document on a biennial (every 2 years) cycle. Staff began the revision process for this document in 2016 and just recently completed the review process for the proposed changes. Changes in the proposed 2017 Electric Rules & Regulations involve clarifying existing rule requirements and adding new inspection and installation standards language.

The 2017 Electric Rules and Regulations document has been reformatted for consistency within each section for numbering, bulleting, etc. Additionally, the exhibit drawings contained in the 2015 document have been completely removed and replaced with new exhibit drawings to better illustrate required clearances and installation practices. The following list of items is intended to highlight some of the more significant changes found in the 2017 document:

- 1) Definitions: Added several new definitions (such as Junction Cabinet, Paved, and Unsuitable Backfill Material)
- 2) New Sub-section 205.4 (Other Required Inspections):
 - Added inspection requirements for transformer pads and Subdivision Joint Utility installations.

FOR BOARD ACTION

Agenda Item # (ID # 7332)

Meeting Date: 5/23/2017

3) Existing Sub-section 403.1 (Single Phase Service):

- Added maximum service size requirement for 120/240 volt secondary service.

4) Existing Sub-section 403.2 (Three Phase Service):

- Added maximum pad-mounted transformer sizes that RPU will install for 120/208 volt and 277/480 volt secondary services.

5) New Sub-sections 403.3 (New Development Load Calculation) and 403.4 (Redevelopment Load Calculation):

- Added language to help clarify how cost charges for new development or site redevelopment may be assessed to a project.

6) New Section 505 (In-Building Transformer Vault Installations):

- Added language to allow this type of transformer installation within the core downtown area of Rochester.

7) Existing Sub-section 602.5 (Height Limits for Meters)

- Revised maximum installation height to 5'-0" and minimum installation height to 3'-0" from final grade to the center of the meter for all outdoor residential and commercial services.

8) Existing Sub-section 602.7(2) (Multi-Family Dwelling Metering Panels)

- Revised maximum installation height to the center of the top meter to 6'-0" indoors and 5'-0" outdoors. Revised the minimum height to the center of the bottom meter to 1'-0" indoors and 3'-0" outdoors.

FOR BOARD ACTION

Agenda Item # (ID # 7332)

Meeting Date: 5/23/2017

9) Existing Sub-section 602.9(1) (Commercial Multi-metering Panels)

- Revised maximum installation height to the center of the top meter to 6'-0" indoors and 5'-0" outdoors. Revised the minimum height to the center of the bottom meter to 1'-0" indoors and 3'-0" outdoors.

10) Existing Sub-section 604.1 (Meter Identification Requirements)

- Blank brass tags for outdoor meter installations are available to electrical contractors at the RPU receptionist desk upon request.

11) Existing Sub-section 611 (Self-Contained Meter Installations)

- Updated language to allow for single or three phase services, 400 amps or less, to use a Class 320 self-contained meter socket installation.

12) Existing Sub-section 902 (Residential Undergrounding in Overhead Areas)

- Added language to clarify that customers replacing an existing overhead service with an underground service will install the service conductors to an RPU installed secondary pedestal.

13) Existing Section 904 (Secondary Connection Cabinets)

- Added new Sub-sections 904.2 and 904.3 that outline clearance and RPU required inspection requirements.

14) Section 906 (Other Pad-Mounted Equipment Clearances)

- Added new section that outlines clearance requirements for RPU pad-mounted equipment such as capacitor banks, switchgear, or primary metering cabinets.

Attached is the complete Electric Rules and Regulations with the changes highlighted in red. Staff will be available at the Board meeting to answer any questions.

FOR BOARD ACTION

Agenda Item # (ID # 7332)

Meeting Date: 5/23/2017

UTILITY BOARD ACTION REQUESTED:

Staff requests the Utility Board adopt the proposed Electric Rules and Regulations to become effective on June 1, 2017.

ROCHESTER PUBLIC UTILITIES



ELECTRIC SERVICE RULES 2017

Attachment: 2017 Electric Rules_Regs_Final (7332 : 2017 Electric Service Rules and Regulations)

ROCHESTER PUBLIC UTILITIES

ELECTRIC SERVICE RULES AND REGULATIONS

Revised: **May 2017**

INTRODUCTION

Rochester Public Utilities (hereafter referred to RPU) has assembled this booklet to assist its customers and their architects, engineers, or electrical contractors to plan for and obtain electric service. The requirements herein supersede all previous publications of the “Electric Service Rules and Regulations” issued by RPU prior to the above date and is subject to change without notice.

The information presented here is intended to supplement the requirements of the National Electrical Code® (NEC®), National Electric Safety Code® (NESC®), National Fuel and Gas Code (NFPA54), Liquefied Petroleum Gas Code (NFPA58), and all other applicable federal, or state, and municipal codes, regulations, laws and ordinances. It is always necessary to refer to and comply with such other codes, regulations, laws, and ordinances when planning, designing, and installing a new electrical service. Specific requirements of RPU do not intentionally conflict with any other requirements known to be in effect as of the publication date of this booklet. Any apparent conflicts of this nature should be brought to the attention of RPU for interpretation. RPU assumes no responsibility whatsoever for the manufacturer’s, supplier’s, electrician’s, or engineering consultant’s compliance with all applicable codes as well as all local and state codes. Any waiver at any time of RPU’s rights or privileges under the electric service rules and regulations will not be deemed a waiver as to any breach of other matter subsequently occurring.

All questions or requests should be directed to RPU's Customer Service Department at the contact number or address listed on page 2.

These electric rules and regulations are available for download from RPU's website (<http://www.rpu.org>). Contact RPU for more details.

RPU ELECTRIC CONTACT INFORMATION

Main Office Address: 4000 East River Rd NE
Rochester, MN 55906-2813

Web Address: <http://www.rpu.org>

Contact	Phone Number	Email
Customer Service	507.280.1500	CustomerServiceReps@rpu.org
Customer Service: Toll Free	800.778.3421	
Emergency Electrical Outages (24 hours)	507.280.9191	
General Information	507.280.1540	
General Fax	507.280.1643	
Metering Department	507.292.1232	
Modified or New Service	507.292.1232	newservice@rpu.org

OTHER CONTACT INFORMATION

Contact	Phone Number	Website
GOPHER STATE ONECALL	800.252.1166	www.gopherstateonecall.org
Rochester Building and Safety Department	507.328.2600	

REVISION HISTORY

Revision Date	Brief Description of Revisions
Aug 2011	Starting Revision for tracking
May 2015	Major Revisions
May 2017	Revisions

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SECTION 100

DEFINITIONS

Application for Service: The agreement or contract between RPU and the customer under which electric service is supplied and taken.

Accessible: Allowing or admitting, close approach; not guarded by locked doors, elevation, or other effective means including any portion of a temporary or permanent structure.

Approved: Acceptable to the authority having jurisdiction.

Building: A structure with roof and walls. Two (2) or more structures shall not be considered a single building merely by the existence of skyways, tunnels, common heating or cooling facilities, common garages, entry halls or elevators, or other attachments.

Cold Sequence: In a cold meter sequence, a disconnecting device is located on the line side (before) of the metering equipment.

Connected Load: The combined manufacturer's rated capacity of all motors and other electric energy consuming devices on the customer's premises which may, at the will of the customer, be operated with the electric energy to be supplied from the service of RPU.

Contractor: Licensed individual or company who performs work on behalf of the customer or RPU.

Current Transformer: An instrument transformer designed for the measurement or control of current.

Customer: Any individual, partnership, corporation, or other legal entity now being served or to be served, using the electric service of RPU at any specified location.

Customer's Service Equipment: The necessary equipment and accessories, located near the point of entrance of supply conductors to a building, which constitute the main control and means of disconnecting the supply to that building. This equipment usually consists of a circuit breaker or a switch and fuses.

Disconnection Means: A device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

Distribution Lines: RPU's lines located along streets, alleys, highways, or easements on private property, when used or intended for use for general distribution of electric service to customers.

Dwelling:

Dwelling Unit: One or more rooms for the use of one or more persons as a housekeeping unit with space for eating, living and sleeping, and permanent provisions for cooking and sanitation.

Multi-Family Dwelling: A building containing two or more dwelling units.

Single-Family Dwelling: A building consisting solely of one dwelling unit.

Easement: The right of use over the property of another, such as a right-of-way.

Electric Service: The availability of electric power and energy, regardless of whether any electric power and energy is actually used. The supplying of electric service by RPU consists of the maintaining, at the point of delivery, approximately the agreed voltage, phase and frequency by means of facilities adequate for carrying the load which RPU is thereby obligated to supply by reason of the known requirements.

Excess Facilities: Those instances where RPU provides distribution and/or metering facilities at the customer's request, in excess of the facilities RPU deems necessary to supply service to the customer.

Fault Current: The current that will flow through the system to a point where a piece or a conductor has failed, such as bare conductors touching together or a bare conductor touching a ground point.

Frost (Frozen Ground): A condition where the water contained within the ground freezes, resulting in additional difficulty and expense in excavation work.

Hot Sequence: In a hot meter sequence, there is not a disconnecting device located on the line side (before) the meter.

Individual RPU Metering: Direct measurement by RPU, using a RPU meter, of all electrical consumption of a customer supplied by the company.

Instrument Transformer: A transformer that reproduces in its secondary circuit, the voltage or current proportional to its primary circuit.

Instrument Transformer Cabinet: A cabinet installed and owned by the customer, complying with RPU's requirements, and designed for housing instrument transformers used for metering.

Junction Cabinet: A pad-mounted enclosure where underground primary cables are connected together, either by splices or separable connectors, for underground distribution systems.

Master Metering: Metering configuration where a single meter (master meter) measures the consumption for a building, and then sub meters on the Customer side of the Master Meter measure the consumption of individual load, loads, or groups of loads.

Meter/Meter Set: An instrument or instruments, together with auxiliary equipment for measuring the electric power and energy supplied to a customer.

National Electrical Code® (NEC®)¹: The current edition of the National Electrical Code as issued by the National Fire Protection Association (NFPA No. 70).

National Electric Safety Code® (NESC®)²: The current edition of the National Electric Safety Code as issued by the Institute of Electrical and Electronics Engineers (IEEE® C2), American National Standards Institute (ANSI® C2).

Nominal Voltage: The value, expressed in volts, which is assigned to a circuit or system for the purpose of conveniently designating its voltage class (such as 120/240, 277/480Y, etc.). The actual voltage at which a circuit operates can vary from the nominal within a range established by ANSI C84.1. The customer is responsible for making sure that their systems are capable of operating with range B of ANSI C84.1.

Occupancy Unit: A room, office, apartment, or other space separated by walls or partitions that enclose the area, or a contiguous grouping thereof when occupied by a single customer.

Paved: A surface covered with a material such as stone, asphalt, or concrete designed for vehicular traffic.

Point of Delivery: The point where the electric energy first leaves the line or apparatus owned by RPU and enters the line or apparatus owned by the customer. This is not necessarily the point of location of RPU's meter.

Point of Interconnection: The location designated by RPU that the Customer must extend conduits to in order for RPU to install our facilities on customer property.

Primary Service: Any type of service with a nominal voltage greater than 600 volts.

RPU: Rochester Public Utilities

¹ National Electrical Code® and NEC® are registered trademarks of the National Fire Protection Association, Inc., Quincy, MA 02269

² National Electric Safety Code® and NESC® are registered trademarks and service marks of the Institute of Electrical and Electronics Engineers, Inc. New York, NY 10017

Rate Schedules: The classification of the use of electricity into categories considering the amount of power supplied and the purpose of its use.

Redistribution: The provision of unmetered electrical supply by a customer to customer's tenants or other occupant, or to any person who qualifies for unmetered service.

Redundant Facilities: Duplicate (partial or full) facilities installed at the request of the customer for the purpose of increasing reliability of the system for a particular customer.

Secondary Connection Cabinet: Cabinet required when the number and/or size of the conductors exceeds RPU's limit for terminating in a specific pad-mounted transformer. If a secondary connection cabinet is used, it will also be the location of the metering equipment.

Secondary Service: Any type of service with a nominal voltage less than or equal to 600 volts.

Secondary Terminal: The secondary side of a pad-mounted transformer, service pedestal, or vault, whichever is designated by RPU.

Series Subtractive Metering: An arrangement to measure consumption in a multiple occupancy unit building using individual RPU meters on each occupancy unit in series with one RPU master meter to measure total building consumption on the set of service entrance conductors or feeder supplying the individual occupancy units with billing for common area usage determined by company formula.

Service: The conductors and equipment for delivering energy from RPU's system to the wiring system of the customer.

Service Drop: The overhead service conductors from the last pole or other aerial support up to, and including the splices (if any), connecting to the service-entrance conductors at the building or other structure.

Service Entrance Conductors, Overhead System: The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop.

Service Entrance Conductors, Underground System: The service conductors between the terminals of the service equipment and the point of delivery.

Service Equipment: The necessary equipment, usually consisting of a circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors to a building or other structure, or an otherwise defined area, and intended to constitute the main control and means of cutoff of the supply.

Submetering: The provision of metered electrical supply through a customer owned meter to a customer's tenants, cooperative or condominium owners, other occupants, or to a portion of the customer's own electrical consumption.

Underground Residential Distribution (URD) Areas: Those residential subdivisions, or other specified areas, within which all customers are served by underground distribution lines.

Underground Service Lateral: The secondary service conductors from RPU's distribution system.

Unsuitable Backfill Material: Includes, but is not limited to, the following materials:

- Granular material (individual stones, soil in clumps or clods, etc.) larger than ¼" in diameter
- Frozen materials
- Materials removed as rock excavation or over-excavation
- Trash, metal, or construction waste
- Environmentally contaminated soils

Upgrade Service: An electric service is considered upgraded if the rating of the customer disconnect is increased, or if either the conductors between the meter socket and the customer disconnect or the conductors on the supply side of the meter are changed.

Utility: For the purpose of this document any public, city, or city-franchised organization that furnishes electric service.

Voltage to Ground: For grounded circuits, the voltage between the given conductor and that point or conductor of the circuit that is grounded; for underground circuits, the greatest voltage between the given conductor and any other conductor of the circuit.

Voltage Transformer: An instrument transformer intended for use in the measurement or control of a circuit and designed to have its primary winding connected in parallel with the circuit.

SECTION 200

GENERAL INFORMATION

201 SERVICE JURISDICTION

RPU has been established by the City of Rochester for the purpose of providing electricity to the residents of the City. RPU also provides electricity to residents outside of the City limits but within the service area boundaries established by the State of Minnesota. Service will be provided to all eligible applicants only when all applications, agreements, easements, deposits, payments, and other required information have been provided to RPU.

202 APPLICATION FOR SERVICE

Application for initial, additional, or temporary electric service must be made by the customer, or a designated representative, to RPU. Applications can be made at RPU's Service Center or by contacting a New/Modified Service Representative (refer to page 2 for contact information). At the time of application, the customer will be required to provide, in writing on the form(s) provided, information relating to the service request, including the following:

- (1) Exact location of premises to be served, including building street address, apartment or unit number if applicable, lot and block numbers, and name of subdivision
- (2) The type of service desired (e.g. temporary, permanent, residential subdivision, dwelling unit, commercial, industrial, rewire, etc.)
- (3) The approximate date that electric service is required
- (4) The name, address, and telephone number of the customer's designated representative who will be responsible for working with RPU representatives in providing the electric service (e.g. customer, employee, engineer, contractor, etc.)
- (5) Commercial Services:
 - a) Load Data Sheet: The customer, or their representative, shall submit to RPU's Engineering Department a completed Electrical Load Data sheet specifying the type of service required by the customer and expected magnitudes of connected and peak load. Additional data in the form of construction drawings and the proposed service entrance may also be necessary for RPU to adequately determine the capacity and arrangement of service to the customer. The load data sheet must be received before RPU can perform the necessary planning and design of the project. Failure to provide this information at the start of a project may result in significant delay in RPU being able to provide service

- b) Application for commercial service must be received a minimum of ten (10) working days prior to energizing the service

RPU should be advised of planning installations as early as possible so that details for furnishing service may be arranged and construction completed by the desired date. Application forms and additional information may be obtained by contacting a RPU New Service Representative (refer to page 2 for contact information) or at <http://www.rpu.org>

203 OWNERSHIP OF EQUIPMENT

203.1 RPU-Owned Equipment - The meter and associated metering equipment furnished or installed by RPU are the property of RPU.

- (1) Overhead Service – In addition to the metering equipment, the overhead service drop installed by RPU is the property of RPU
- (2) Underground Service – In addition to the metering equipment, all equipment up to and including the designated point of delivery is the property of RPU

203.2 Customer-Owned Equipment - The meter socket, instrument transformer compartment (if required, see Section 610), the service entrance conductors and conduit from the meter socket to the service entrance disconnect, the service entrance switch or circuit breaker, the service entrance ground equipment, and the concrete transformer pad and grounding grid are the property of the customer.

- (1) Overhead Service – In addition to the equipment on the customer side of the meter socket, the service drop wire holder or bracket, the weather head, and either the service mast and conduit with entrance wires, or the service entrance cable with watertight connection to the meter socket are the property of the customer
- (2) Underground Service – In addition to the equipment on the customer side of the meter, all conduit and cable required to extend the secondary service lateral from RPU's point of delivery to the meter socket are the property of the customer

203.3 Responsibilities - The customer and RPU are responsible for the installation, maintenance, repair, and replacement of the electric service equipment which each owns.

204 EASEMENTS

Whenever any RPU-owned underground and/or overhead material and equipment is located on or above the customer's property, the customer shall grant an easement to RPU to the extent which RPU deems necessary. All

utility easements required by RPU are to be granted by the customer at no cost to RPU. The customer must provide a legal description and exhibit by a Registered Land Surveyor. The easement will be signed and recorded by RPU.

205 INSPECTION OF CUSTOMER'S FACILITIES

205.1 Requirements – As a minimum, wiring and electrical equipment of the customer shall be installed in accordance with the latest edition of the National Electrical Code®.

205.2 Inside City Limits – Customer services and associated wiring installations located within the Rochester city limits, including temporary installations, must be inspected and approved by an authorized inspector of the City Building Safety Department as required by Minnesota Statutes Section 326.B.36. RPU will make connection only after approval by the authorized inspecting authority. The inspector is required by Minnesota Statutes Section 326.B.36 to disconnect or have disconnected by the utility any installation that is declared by the inspector to be unsafe and a hazard.

205.3 Outside City Limits – Customer services and associated wiring installations located outside the Rochester city limits and requesting service from RPU must have their wiring inspected by a state inspector. RPU will make connection before authorization from the state inspector only if the master electrician who installed or supervised the installation agrees in writing to be responsible for said wiring until such time that it can be inspected and approved by the state inspector (“Request for Electrical Inspection” – white form).

205.4 Other Required Inspections (Forms can be found at <http://www.rpu.org>)

- (1) Transformer Pad – Prior to pouring concrete, the customer, or customer's contractor, shall complete and submit to RPU's Engineering Department the completed “Request for Transformer Pad Inspection” form. RPU personnel will visually inspect the formed pad within the timeframe noted on the form. Any observed deficiencies will be noted on RPU's inspection form. Corrections and re-inspection by RPU personnel must be made before approval to pour concrete will be given. RPU reserves the right to refuse service if the transformer pad is poured prior to inspection and correction of noted deficiencies.
- (2) Subdivision Installation – The customer, or customer's contractor, shall complete and submit to RPU's Engineering Department the completed “Developer Request for Utility Installation in Subdivisions” form. The site will then be inspected for compliance with requirements. If no deficiencies are found, the site will be scheduled for joint utility installation. If any deficiencies are found, corrections must be made

and a new form re-submitted for inspection prior to the site being scheduled for joint utility installation.

206 SERVICE CONNECTION, DISCONNECTION AND RECONNECTION

206.1 Site Readiness – After the customer’s installation has been inspected and approved by the proper authority, a meter will be installed by RPU and the electric service made available provided that all applications, fees, agreements, and deposits have been submitted by the customer and approved by RPU. Inspection notices must be received by RPU two (2) business days prior to the date that the connection is desired (weekends and holidays excluded). Under special circumstances, verbal inspections will be accepted as long as written inspection documentation is submitted immediately thereafter.

206.2 Notification – Customer requests for disconnection or reconnection of existing services must be received by RPU two (2) business days prior to the desired time of disconnection or reconnection (weekends and holidays excluded). For the mutual protection of the customer and RPU, only authorized employees of RPU are permitted to set and remove meters, or to make and energize or break and de-energize the connection between RPU’s service drop or secondary terminals and the customer’s service entrance conductors or underground service laterals.

206.3 Building Demolition – If a building is scheduled for demolition, the contractor shall notify RPU’s New Services Department for a service disconnect a minimum of two (2) business days prior to the start of demolition. RPU will then issue a work order to disconnect the service. There is no RPU charge for the retirement of electric service.

If at some future time the owner at the location requires service, the owner shall be required to submit a new “APPLICATION FOR SERVICE” request, pay any and all liens or amounts encumbered by RPU and/or any outstanding RPU charges before an account will be reactivated.

206.4 Commercial Customer Requested Outage – Customer shall contact their key account representative by calling the Customer Service number listed on page 2 of this document and working with them to complete the “Commercial Shutdown Application” form found at <http://www.rpu.org>.

207 LIABILITY

207.1 Damage as Result of Service – RPU does not engage in the practice of doing interior wiring on the customer’s premises except for the installation and maintenance of its own property, and therefore, is not responsible for service beyond the point of delivery. RPU shall not be liable for damage to any

customer or to any third party resulting from the use of the service or from the presence of RPU appliances or equipment on the customer's premises.

207.2 Responsibility – The customer is solely responsible for any accidents, fires, or failures resulting from the condition and use of his wiring installation or equipment.

208 SERVICE INTERRUPTIONS

208.1 Notice – RPU reserves the right to interrupt service at any time. Interruptions for maintenance and system improvements will be prearranged and advance notice will be given to the customer whenever practical.

208.2 Responsibility – RPU will not be responsible for consequential damages resulting from service interruptions or fluctuations outside its control or from operations in response to abnormal system conditions. Customers requiring service reliability and/or stability exceeding RPU's normal service should consider uninterruptible power supplies, isolation transformers, power conditioners, redundant services, or other options to provide the level of service needed. RPU's Engineering Department is available to discuss such needs.

209 ACCESS

Employees of RPU shall have the right of access to the customer's premises at all reasonable times for the purpose of installing, reading, inspecting, maintaining, or removing any of its meters, devices, or other equipment which is used in connection with the furnishing of the customer's electric service.

210 CUSTOMER RESPONSIBILITY

Failure of the Customer to notify RPU in a timely manner of any planned alteration to electric service facilities or increased electrical load, and failure to comply with RPU's published rules, regulations, and rate schedules may result in delayed connections, interruption of service, or damage to equipment, for which RPU disclaims all responsibility.

211 REVISIONS OF REQUIREMENTS

All requirements stated or implied herein are subject to change at any time without prior notice.

SECTION 300
(RESERVED FOR FUTURE USE)

SECTION 400

STANDARD SERVICES

401 GENERAL CHARACTERISTICS

This section describes the types of services offered to customers under RPU's standard rate schedules. Electric service supplied by RPU is alternating current having a nominal frequency of 60 Hertz (cycles per second).

402 AVAILABILITY OF SERVICE

Although the types of service listed below are generally available through the area served by RPU, service of the type requested by a customer may not be available at the location where such service is desired, and in certain cases may be available only through special contractual arrangements and at the expense of the customer. Each customer will generally be allowed only one type of service and one point of delivery for each location. For redundant services, refer to Section 504.

403 SECONDARY SERVICE VOLTAGE

The following types of secondary service are generally available to customers served under RPU's standard rate schedules:

403.1 Single Phase Service – 120/240 Volt, 3-Wire, Grounded Neutral: Generally available where the total load is 100 kVA or less (**maximum service size of 600 amp**) for pad-mount service, or 50 kVA or less for pole-mounted service, with an underground secondary in each case.

403.2 Three Phase Service – Generally available where facilities of adequate capacity are adjacent to the premises to be served.

- (1) 208Y/120 Volt, 4-Wire, Grounded Neutral: Generally available to customers with loads determined by RPU to be 75 kVA or greater for pad-mount service, or 45 kVA or greater for pole-mounted service with an underground secondary in each case. **The maximum size pad-mounted transformer that RPU will install is 1000 kVA**
- (2) 240/120 Volt, Delta, 4-Wire, Grounded Neutral: No longer available as a new standard service
- (3) 240 Volt (and 480 Volt), Delta, 3-Wire: No longer available as a new standard service

- (4) 480Y/277 Volt, 4-Wire, Grounded Neutral: Generally available to customers with loads determined by RPU to be 75 kVA or greater for pad-mount service, or 45 kVA or greater for pole-mounted service with an underground secondary in each case. **The maximum size pad-mounted transformer that RPU will install is 2500 kVA**

403.3 New Development Load Calculation – For developments with loads determined by RPU to be less than 75 kVA, based on RPU's projections, electric service charges will be determined as follows:

- (1) Customer is not requesting 3-phase service
- a) Customer cost – transformer pad and primary conduit from point of interconnection to transformer pad primary compartment
 - b) RPU cost – Transformer
- (2) Customer is requesting 3-phase service
- a) Customer, or customer's contractor, shall contact RPU's Engineering Department for determination of cost (if any) that will be assessed to the project by RPU. Cost assessments vary depending on the availability of 3-phase and the accessibility of 3-phase in relation to the project site. Any costs assessed to the project by RPU will need to be paid by the customer prior to RPU performing the three phase installation

403.4 Redevelopment Load Calculation – For redevelopment projects with loads determined by RPU to be less than 75 kVA, based on RPU's projections, the customer, or customer's contractor, shall contact RPU's Engineering Department for determination of cost (if any) that will be assessed to the project by RPU.

404 PRIMARY SERVICE VOLTAGES

Three-Phase, 13800Y/7970 Volt, 4-Wire, Grounded Neutral Service:
Available only by special request where the total annual peak load at one site is projected by RPU to exceed 500 kW. RPU reserves the right to deny a request for a primary voltage service. Where provided, the point of delivery will normally be the terminals of RPU's cable in the customer's switchgear.

SECTION 500

SPECIAL SERVICES

501 TEMPORARY SERVICE REQUIREMENTS

501.1 General – Temporary service is intended to be supplied at secondary voltages only to customers for use during the construction of permanent facilities and before the permanent service can be installed.

501.2 Address – The address of the location to be supplied with temporary service must be permanently displayed at the location and on the temporary pedestal/meter location and be easily readable from the street before RPU will install the temporary service. All overhead and underground temporary services will be metered and billed under one of RPU's standard rate schedules.

501.3 Installation – The customer shall provide an approved meter socket with the necessary raceway and a suitable rigid support for attachment of the metering equipment and service drop. On all three phase temporary services, where required, the customer shall also provide a suitable enclosure for installation of RPU's instrument transformers.

501.4 Installation Length – Service to any electrical installation for a period of less than two (2) years shall be considered as "temporary service". Any installation that remains in service longer than this timeframe must be changed to a permanent service installation when directed by RPU.

501.5 Fees - Temporary electrical services costs shall be in accordance with the following requirements listed below:

- (1) Secondary Available at Property:
 - a) A temporary meter installation fee will be assessed for the first single phase temporary service installed for construction. The location of the temporary service will be designated by RPU
- (2) RPU has primary voltage facilities available on or adjacent to the lot and setting of a transformer is required:
 - a) A temporary meter installation fee and a temporary facilities installation fee will be assessed for the first temporary service installed for construction. The location of the temporary service will be designated by RPU

- (3) RPU does not have adequate facilities in the area:
 - a) The customer will be required to pay RPU for the actual cost to install and remove the temporary service(s)
- (4) Information regarding the charges for temporary service can be obtained from an RPU Customer Service Representative. RPU may require temporary service fees to be paid in advance

502 SERVICES FOR UNUSUAL LOAD CHARACTERISTICS

502.1 Customer Transients – The operation of customer equipment having a relatively high load of short or intermittent duration, such as welders, compressor motors, elevators, and X-ray equipment, may cause serious fluctuations of voltage and interfere with the service being provided by RPU to other customers. If such a load is anticipated, the customer must consult with RPU and agree to install such protective devices as may be required so as not to cause damage to any of RPU's equipment or in any way inhibit service to other customers.

502.2 Special Compensation - Special compensation may be required by RPU, from the customer, in those cases where it is necessary for RPU to install non-standard, or larger, facilities than would normally be required to provide satisfactory service. (Refer to Section 700 for additional details).

503 EXCESS FACILITIES

RPU will size utility electric facilities (primary cable and transformer) to serve the load projected by RPU. If a customer desires RPU to install excess facilities, RPU must be advised as soon as possible so the feasibility of such a service can be determined. If RPU determines that excess facilities can and will be provided, the customer will be required to reimburse RPU for the difference in cost between the standard service and the excess facilities, including all labor, materials, and overheads. A written agreement between the customer and RPU shall also be executed at RPU's discretion.

504 REDUNDANT FACILITIES

RPU will provide one set of facilities (such as a set of primary cables and a transformer) to one point of service for each customer. If a customer requires redundant facilities (more than one set of facilities to the same point of service), RPU must be advised as soon as possible so the feasibility of such service can be determined. If RPU determines that redundant facilities can and will be provided, the customer will be required to reimburse RPU for the entire cost of additional facilities, including all labor, materials, vehicle

charges, and overheads. An agreement between the customer and RPU may also be executed at RPU's discretion.

505 IN-BUILDING TRANSFORMER VAULT INSTALLATIONS

505.1 Availability – In-Building transformer vault installations are allowed within the core downtown area of Rochester only. Contact RPU's Engineering Department to determine if a project falls within this defined area, and to obtain a construction standard with requirements. Additional fees and agreements between the customer and RPU will be required for this type of transformer installation.

506 RELOCATION OR PROTECTION OF RPU FACILITIES

506.1 Responsibilities – It is the responsibility of the customer to arrange for the relocation and/or protection of RPU's facilities whenever such action is appropriate. Any intended relocation or protection of RPU's facilities must be reviewed with and approved by RPU in advance.

506.2 Customer Costs – The cost of any change or relocation of RPU's facilities for the benefit only of the customer, and which has been initiated by the customer, shall be borne solely by the customer. A deposit by the customer may also be required before the changes are made.

506.3 RPU Costs – RPU will bear costs to the extent that a change or relocation benefits RPU. The customer shall not be required to pay for changes necessitated through public improvements by the City, County or State.

506.4 Painting – The customer shall not paint or otherwise modify the appearance of any RPU owned equipment or facilities.

507 REWIRING OR UPGRADING EXISTING FACILITIES

507.1 General – The customer or electrical contractor shall contact RPU when it is necessary to rewire or upgrade an existing electric service. All RPU Electric Service Rules & Regulations must be followed. The customer shall be responsible for maintaining the same phase rotation for 3-phase rewires.

507.2 Not Permitted – Customers shall not be allowed to convert an existing underground electric service to an overhead service.

507.3 Underground Service – When a customer upgrades an existing electric service with RPU owned underground service laterals, the ownership of the underground service lateral will transfer from RPU to the customer.

SECTION 600

METERS AND METERING EQUIPMENT

600 GENERAL

This section covers the installation of meters and associated equipment such as current and potential transformers for both overhead and underground services. Further description of RPU requirements for both overhead and underground services is covered in other sections of this booklet. The requirements contained in this section are for services rated 600 volts or less. When services are required at primary voltage (such as 13800Y/7970 volts), the metering requirements and equipment will be determined on an individual basis.

601 RESPONSIBILITIES FOR PROVIDING METERING EQUIPMENT

All metering equipment, with the exception of the meter, current and potential transformers, must be purchased and installed by the customer or electrical contractor. All metering equipment installed must be certified and labeled and have prior approval of RPU's Electric Metering Department. Metering equipment installed without RPU approval will not be energized unless special permission from RPU's Electric Metering Department is obtained. RPU will energize only one (1) set of metering equipment under each contract or application for one class of service.

602 LOCATION OF METERS

602.1 General – Meter locations will be agreed upon by representatives of the customer and RPU, subject to final approval by RPU.

602.2 Clearances – Meters shall be installed **in a location with not less than three (3) feet of unobstructed space in front and 30 inches total in width.** Meters shall not be located where they are subject to corrosive fumes, dust, vibration or physical damage. Outdoor meters shall not be located in carports, under porches whether open or enclosed, or along walkways or driveways where they might create a hazard to people or be subject to damage by passing objects. Required meter working and safety clearances are shown in Section 1100, Exhibit 11.1.

602.3 Accessibility – Meter locations shall not be hazardous or cause inconvenience to employees of RPU when installing, maintaining, or reading the meters. RPU personnel shall have direct and unobstructed access to RPU's metering equipment at all times.

602.4 Industrial and Commercial - Meters for industrial and commercial services shall be located outdoors.

602.5 Height Limits - All meters located outdoors on residential or commercial services, where the meter is mounted on a permanent structure, shall have a **maximum installation height of 5'-0" and a minimum installation height of 3'-0" from final grade to the center of the meter.** A typical residential underground service meter installation is shown in Section 1100, Exhibit 1.

602.6 Residential – Residential meter installations shall comply with the following requirements:

- (1) All new services must have the electric meter located outside
- (2) Existing residential customers where the meter is located inside shall relocate the meter to the outside if the service is upgraded
- (3) All new self-contained meter sockets installed under (1) or (2) above must be on the list of approved meter sockets (refer to Section 613)

602.7 Multi-Family Dwelling – Where more than one meter is installed (typical for apartment complexes), meters shall be grouped outdoors at a point accessible at all times to each customer and to RPU personnel.

(1) Exceptions:

- a) *Multi-family dwellings that have 24 meters or more may request to locate the meters inside as long as they are grouped at one (1) location and accessible at all times to each customer and to RPU personnel*
- b) *Multi-family dwellings where the building has over three (3) occupied stories fully above grade, the customer may request in writing for permission to be allowed to install grouped metering panels in multiple locations. The metering locations should be minimized and typically would only be allowed on every 3rd story of the building*
- (2) In all cases where multi-metering panels with stacked meter sockets are used, **the maximum height to the center of the top meter shall be not more than 6'-0" indoors and 5'-0" outdoors and the minimum height to the center of the bottom meter shall be not less 1'-0" indoors and 3'-0" outdoors.** Individual apartment disconnects must be connected on the load side of the meter. If the service voltage is 120/208 volts, a fifth terminal located at the 9 o'clock position is required in the socket and must be connected to the service neutral in accordance with the National Electric Code® (Refer to Section 1100, Exhibit 11.0). The house meter socket for apartment buildings requires an approved lever

actuated positive bypass mechanism which will provide clamping pressure on the meter blades. Only one (1) meter may be installed under one socket cover in multi-metering panels

602.8 Mobile Homes - RPU will individually meter each mobile home located in a mobile home court or addition to a mobile home court. Resale of metered electrical energy by the court owner will not be permitted in these facilities. Individual meter pedestals, with bypass sockets, shall be provided by the customer or his representative. Maintenance and repair of the meter pedestal is the responsibility of the customer. A typical mobile home metering arrangement is shown in Section 1100, Exhibit 2.

602.9 Commercial Multi-Metering Panels – Installations shall comply with the following requirements:

- (1) All commercial multi-metering panels used in shopping centers, spec. buildings, and multi-commercial tenant buildings shall have a maximum of four (4) meter sockets per vertical stack. In all cases, **the maximum height to the center of the top meter shall be not more than 6'-0" indoors and 5'-0" outdoors and the minimum height to the center of the bottom meter shall be not less 1'-0" indoors and 3'-0" outdoors.** An approved lever bypass is required on all meter sockets and each individual unit disconnect shall only be connected to the load side of the meter. Each individual meter socket shall have a barrier to isolate the customer's disconnect switch and wiring from the metering area. Only one (1) meter may be installed under one socket cover. A system neutral is required to each 5 and 7 terminal meter socket in accordance with the National Electric Code®
- (2) Each meter shall have a separate accessible lockable service disconnect wired in cold sequence to be used by RPU
- (3) **Exception:**
In situations where the building has over three (3) occupied stories fully above grade, the customer may request in writing for permission to be allowed to install grouped metering panels in multiple locations. The metering locations should be minimized and typically would only be allowed on every 3rd story of the building

603 GROUPED METERS

In installations requiring more than one meter, the meters shall be grouped and suitably connected such that a meter serves no more than one customer. The height limits stated previously also pertain to grouped meters where practicable. If deemed necessary by the space available, the meters may be stacked in an orderly fashion. Any dwelling with more than one customer living therein must have an individual meter for each dwelling unit. These meters must be easily accessible to all tenants and to RPU personnel. There

shall be an approved type of disconnecting means for each meter, which is lockable in some way to prevent reconnection by other than RPU personnel. A typical multiple metering arrangement is shown in Section 1100, Exhibit 3.

604 METER IDENTIFICATION

604.1 Requirements – If more than one meter is required for a building, each meter socket shall be identified and permanently designated in a suitable manner indicating the particular customer served. **For outside locations, the meter socket shall be marked with a stamped brass, aluminum or stainless steel tag. Blank brass tags are available at RPU's receptionist desk upon request.** If the meter location is inside, an engraved hard plastic tag will also be acceptable. The lettering on the tag shall be ½ inch block letters or numbers and the tag shall be securely attached to the exterior, non-removable portion of the meter socket and at the individual meter main disconnect. Any other means of identification is not acceptable. A permanent marking shall also be inside the meter socket base in a visible location (RPU will accept a written address using a permanent marker as satisfying the requirement for marking inside the meter socket). **Meters will not be installed until the above requirements are met.**

604.2 Circuit Checking – Each circuit shall be carefully traced and rechecked by the customer or contractor to ensure against errors in wiring that would result in one customer obtaining service through the meter serving another customer. This is especially important when the wiring is concealed. Electric service shall not be energized if meter sockets are not identified. It will be the contractor's/owner's responsibility to correct any errors due to misidentification of meter sockets. RPU reserves the right to charge the building owner and/or electrical contractor for actual costs incurred by RPU to make corrections.

605 METER MOUNTING

605.1 Outdoor Meters and Meter Mounting Devices – Outdoor meters and meter mounting devices shall be mounted securely on permanent structures such as houses, garages, and other buildings. Where outdoor meters are installed on surfaces that prevent installation of the meter-mounting device in an exact vertical plane, a meter board must be installed or the surface modified in such a manner that the meter-mounting device can be installed vertically.

605.2 Preferred Meter Location(s) – The preferred meter location is within ten (10) feet of the front end of the building (house or attached garage) on a single-family dwelling for new customer hook ups. All meter locations for rewired or upgraded services shall be located outdoors with locations agreed upon between customer, contractor, and RPU personnel with final approval

by RPU personnel. RPU has the right to refuse to energize service if these requirements have not been met.

605.3 Indoor Meter Location(s) – Indoor meters, where permitted, shall be mounted in accordance with the preceding requirements of this section and shall be located as close as possible to the point where service enters the building. Indoor metering equipment shall be mounted securely in a vertical plane on permanent structures in a location free from moisture, high temperature, vibration, dust, or dirt.

606 METER CONNECTIONS

The customer shall provide the necessary wiring for the meter set with the wiring so arranged that the line (supply) side can be connected to the top terminals of the socket and the load side to the bottom terminals. All conductors shall extend into the meter socket and shall be of equal length and at a minimum distance equal to the length of the socket trough. All neutral conductors must be insulated. For underground services, the line side neutral wire is to be identified in accordance with the National Electrical Code®. There should be sufficient slack left in the underground cables to make up for any ground shifting due to settling or extreme cold.

607 WIRING RESTRICTIONS ON METERS AND METERING SETS

No customer wiring is permitted to be connected to the metering, secondary wiring or under the terminals of the meter. No part of the metering set may be used as a junction box for the customer's wiring.

608 METER TESTING

608.1 Testing Request – Any customer, who believes that a meter is failing to register properly the use of electricity, may request a meter check by contacting an RPU Customer Service Representative. RPU will test the meter using standard calibration equipment and generally accepted test procedures within a reasonable period of time. Customers who request additional meter tests within a twelve (12) month period may be charged for the additional tests at a standard fee.

608.2 Meter Error Standard – Whenever a watt-hour meter is found upon test to have an average error of more than two percent (2%) from one hundred percent (100%) or a demand meter more than one and one-half percent (1.5%) from one hundred percent (100%), a recalculation of bills for service will be made on the basis that the meter should be one hundred percent (100%) accurate with respect to a working test standard.

608.3 Meter Inaccuracy (Working) – If the period of inaccuracy cannot be determined, it will be assumed that the metering equipment has become inaccurate at a uniform rate since it was installed or last tested unless there is a valid reason to use another method. Recalculation of bills is based upon RPU Board Policy for adjustments of customer accounts.

608.4 Meter Inaccuracy (Failure) – When the average error cannot be determined by test due to complete failure of all or part of the metering equipment, then an estimate of the quantity of energy consumed based upon available data will be used to determine the adjusted bills.

609 METER SEALS

All connections to RPU service equipment shall be made by RPU Electric Metering Department personnel only. Unauthorized connections to or tampering with any RPU meter, associated equipment or meter seals, or indications or evidence thereof subjects the customer to immediate discontinuance of service, prosecution under the laws of Minnesota, adjustment of prior bills for services rendered, and reimbursement to RPU for all extra expense incurred on the account. In addition, when the unauthorized connections or tampering involve an inside meter, the customer shall, at his own expense, relocate all service equipment and metering facilities outside the building.

610 INSTRUMENT TRANSFORMER METER INSTALLATIONS

RPU no longer furnishes instrument rated meter sockets. Please contact a local electrical distributor of your choice to purchase an RPU approved instrument rated meter socket. **If requiring an 8 terminal meter socket, please contact RPU's Electric Metering Department for prior approval.**

610.1 Where Required – It will be necessary for RPU to use instrument transformers in the metering installation under the conditions listed below:

- (1) Single Phase Service: When any single phase service exceeds 400 amps in size
- (2) Three Phase Service: When any three phase service exceeds 400 amps in size

610.2 Instrument Transformer Provision & Location – All instrument transformers will be furnished by RPU and installed by RPU's Electric Metering Department, or delivered to the customer/contractor to install into an approved instrument transformer cabinet. The instrument transformer cabinet will be located before the customer service entrance disconnect switch.

610.3 Secondary Metering Instrument Transformer Cabinet Requirements – Cabinet shall be furnished and installed by the customer. This includes all services, either overhead or underground. All cabinets must be certified and labeled, approved by RPU personnel and meet all National Electric Code® requirements prior to installation. The meter socket shall not be mounted to the door of the cabinet and all cabinets must conform to the following:

- (1) Cabinets must be UL approved and be the correct NEMA class for the area environment in which it is installed
- (2) Minimum instrument transformer cabinet sizes are as follows:
 - a) 250 volts and below: 48 inches high, 25 inches wide, and 15 inches deep
 - b) 251 – 600 volts: 48 inches high, 36 inches wide, and 15 inches deep
- (3) The door must have a single closure with provisions for locking with a standard padlock through the handle
- (4) Cabinet must be hinged on the right or left side only
- (5) Cabinet shall not be used as a junction box or service connection cabinet
- (6) Only RPU metering transformers may be contained therein
- (7) A 1-inch conduit installed between the cabinet and meter socket location is required
- (8) Cabinet must accept bar-type current transformers on all services 1200 amps or less
- (9) Customer is required to label the line side and load side of the conductors within the instrument transformer cabinet

610.4 New Service Secondary Metering Requirements – For any new electrical services requiring the use of instrument transformers, the instrument transformers must be mounted in an approved instrument transformer cabinet complying with the requirements of 610.3 above and be located as follows:

- (1) Underground Service from Pad-Mounted Transformers: When service is supplied underground from a pad-mounted transformer, the location of the instrument transformer cabinet must be approved by RPU during installation
- (2) Overhead Services: When service is provided by overhead service drops, approved outdoor instrument transformer cabinets will be required. Location of transformer cabinets will have final approval by RPU's Electric Metering Department before installation. No open air CT's or PT's will be allowed
- (3) Indoor Mounted Instrument Transformers: Instrument transformers installed indoors must have a service size of 1200 amps or greater, be installed inside the customer switchgear in a compartment designated

for instrument transformers only, and have prior approval from RPU's Electric Metering Department

610.5 New Indoor Primary Metering Equipment Requirements

- (1) When primary metering service is to be installed, the customer shall furnish a compartment or switchgear cubicle to house the primary current and potential instrument transformers. All current and potential instrument transformers shall be rated for metering accuracy as approved by the RPU's Electric Metering Department. The metering point shall be located electrically between the customer's main disconnect and customer's circuits ("cold sequence" metering arrangement)
- (2) When practical, RPU may request that the customer install the primary current and potential transformers per RPU specifications. (Contact a Customer Service Representative to obtain Engineering assistance.) In such situations, RPU may credit the customer for installation and material charges up to RPU's normal cost for instrument transformers

610.6 New Outdoor Primary Metering Equipment Requirements – When outdoor primary service is to be installed, RPU may elect to utilize either a pole-mounted or pad-mounted primary metering equipment set. Outdoor primary metering units are furnished and installed by RPU. Sharing of the material and installation costs for primary metering will be determined on a case-by-case basis.

610.7 Existing Service Emergency Repairs – In situations requiring emergency repairs to an existing electrical service where instrument transformers are installed in any location other than an instrument transformer cabinet, the customer/contractor must receive prior approval for the new mounting location of the current transformers from RPU's Electric Metering Department. These types of installations include, but are not limited to:

- (1) Instrument transformers mounted on a pole
- (2) Instrument transformers installed inside a distribution transformer
- (3) Instrument transformers installed inside customer switchgear

611 SELF-CONTAINED METER INSTALLATIONS

611.1 Requirements – In general, RPU will install self-contained meters (meters without instrument transformers) on single or three phase services where the service rating is 400 amps or less (Class 320 meter socket). Where such metering is to be used, the customer shall provide a lever-operated bypassing socket (Refer to Section 613). Such meter sockets permit a continuation of service upon removal of the meter for testing or maintenance.

If a lever-operated bypass meter socket is not installed, the service will not be energized.

612 MASTER METERING INSTALLATIONS

612.1 All new residential units will be individually metered.

Exception Provided in Minnesota Rule 326B.106 Subd. 12:

Buildings intended for occupancy primarily by persons who are 62 years of age or older or disabled, supportive housing, or buildings that contain a majority of units not equipped with complete kitchen facilities, shall be exempt from the provisions of this subdivision. For purposes of this section, "supportive housing" means housing made available to individuals and families with multiple barriers to obtaining and maintaining housing, including those who are formerly homeless or at risk of homelessness and those who have a mental illness, substance abuse disorder, debilitating disease, or a combination of these conditions."

- (1) A customer claiming the above exception above takes all legal responsibility for proving the exemption for the life of their building
- (2) Any customer claiming the exception above must provide RPU, in writing, a statement that they are claiming an exception under Minnesota Rule 326B.106 Subd. 12 and why they feel their building meets the requirements for an exception. RPU does not determine the validity of the claimed exception and this required filing is for RPU's documentation only

612.2 All new commercial or industrial units will be individually metered. Exceptions must be approved by RPU's Electric Metering Department.

612.3 Submetering by others for the purpose of charging individual occupants based on measured use must be in accordance with statutory requirements. Submetering by others for information purposes or to control the use of electric power for energy is permitted.

613 APPROVED METER SOCKETS

Meter installations made with unapproved meter sockets will not be energized, or subject to disconnection if non-approved equipment is installed.

RPU APPROVED METER SOCKETS		
SELF CONTAINED	SERVICE VOLTAGES	APPROVED MFG./PART NUMBER
4 Terminal 100A to 320A, Lever Bypass (Residential, 1-Phase)	120V, 2 wire Single Phase OR 120-240V, 3 wire Single Phase OR (240/480V, 200A MAX)	Landis and Gyr: HQ Series Milbank: HD 200 Series Thomas & Betts/Anchor: TB Square D: HD Series
5 Terminal 100A to 320A, Lever Bypass (Residential, 1-Phase)	120V, 2 wire Single Phase OR 120-208V, 3 wire Single Phase OR 120-240V, 3 wire Single Phase Network (240/480V, 200A MAX)	Landis and Gyr: HQ Series Milbank: HD 200 Series Thomas & Betts/Anchor: TB Square D: HD Series
7 Terminal 400A MAX, Lever Bypass (Commercial, 3-Phase)	120-208V, 277-480V 4-Wire-WYE OR 120-240 4 Wire-DELTA (This service is not allowed for new installations)	Milbank: #U4701-RRL Cutler Hammer: #UTE7213BCH L&G: # 40407-025
INSTRUMENT RATED	SERVICE VOLTAGES	APPROVED MFG./PART NUMBER
6 Terminal Over 400A and larger (Residential or Commercial, 1-Phase)	120-240V, 3 wire Single Phase	Milbank: #UC7478-RL-WC-271 (Pre-wired to RPU spec.)
8 Terminal Over 200A and larger (Commercial 3-Phase)	120-240 3 Wire-DELTA	Contact RPU for approval
13 Terminal Over 200A and larger (Commercial, 3-Phase)	120-208V, 277-480V 4-Wire-WYE OR 120-240 4 Wire-DELTA (This service is not allowed for new installations)	Milbank: #UC7445-RL-WC-951 (Pre-wired to RPU spec.)

614 SERVICE AT 480 VOLTS

Any 480 volt metering service requiring the use of current transformers will require the use of a step down potential transformer. RPU will supply and install all metering potential transformers at no cost to the customer/contractor.

615 LOCATION OF HIGH-LEG IN METER SOCKET ON 240/120 VOLT, 3-PHASE SERVICES

The conductor with the higher voltage to ground must be connected to the terminal on the right side. The high-leg conductor must be identified as required by the National Electric Code®. Meter sockets with the high-leg in the wrong position will not be energized. Incorrectly wired sockets will be subject to disconnection until wiring is corrected.

616 REMOVING RPU SEALS AND METERS

Disconnection of RPU metering equipment and cutting of seals is not allowed.

617 CUSTOMER GENERATION

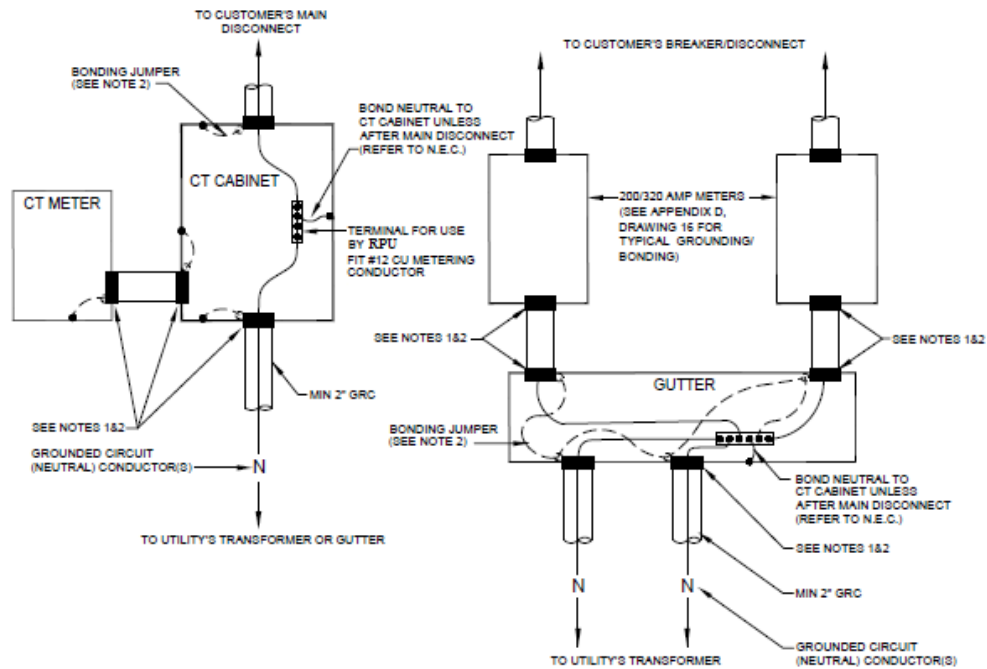
Where a customer intends to operate any type of electric generator, photovoltaic array, wind generator, or similar equipment interconnected with RPU's system, special service and metering requirements must be satisfied. Contact RPU for details prior to interconnecting any generation equipment.

618 PROPER GROUNDING/BONDING OF METER SOCKETS & SERVICES

618.1 Proper Grounding/Bonding – Service equipment and enclosures may need to carry heavy fault currents in the event of a ground-fault. For this reason, it is imperative that meter sockets and conduits be adequately bonded to the neutral and to the ground. Bonding is to be done by threaded couplings and threaded bosses in a rigid metal conduit system where the joints will be made up wrench tight. Locknuts and bushings do not fulfill the requirement of bonding at service equipment. Grounding bushing (with bonding jumpers), bonding locknuts, threaded conduit hubs, or other means are approved (Refer to National Electric Code® Article 250.66). All metering conduits and sockets must be properly grounded. If PVC conduits are used, grounding conductors must be provided and installed by the customer or electrical contractor in accordance with the National Electric Code®. Electric services will not be connected if improperly grounded/bonded upon inspection.

618.2 Neutral for 5 and 7 Terminal Sockets - A system neutral is required to each 5 and 7 terminal socket. Conductor should be sized in accordance with the National Electric Code®.

TYPICAL GROUNDING/BONDING FOR CT CABINET AND GUTTER



NOTES:

1. The metal conduit raceway (PVC is allowed on the load side of meter socket or CT cabinet) shall be bonded to the neutral conductor by the use of a grounding bushing (with bonding jumper), bonding locknuts, threaded conduit hub.
2. When a grounding bushing is used, a bonding jumper shall be installed to connect with the bonded enclosure. The bonding jumpers shall be sized to meet NEC Table 250-66. Bonding to be completed by contractor.
3. All neutral conductors shall be terminated in CT cabinets and gutters to a common connection.

SIZE OF LARGEST SERVICE-ENTRANCE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS		SIZE OF BONDING JUMPER CONDUCTOR
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER
#1/0 or smaller	#3/0 or smaller	6
#2/0 or #3/0	#4/0 or 250 kcmil	4
Over #3/0 thru 350 kcmil	Over 250 kcmil thru 500 kcmil	2
Over 350 kcmil thru 600 kcmil	Over 500 kcmil thru 900 kcmil	#1/0
Over 600 kcmil thru 1100 kcmil	Over 900 kcmil thru 1750 kcmil	#2/0
Over 1100 kcmil	Over 1750 kcmil	#3/0 or 12-1/2% of conductor kcmil, whichever is larger

619 CUSTOMER DISCONNECT SWITCH

619.1 Residential Customers – Individual Customer disconnect switches shall be connected on the load side of the meter. No customer devices, e.g. surge suppressors, load management equipment, etc., may be installed on the line side of the meter.

619.2 Non-residential Customers – Each installation must have a separate securable disconnect, installed on the load side of the meter, and accessible to RPU at all times. If the building is a multi-tenant building, each non-residential customer must have a separate securable disconnect installed on the load side of the meter. The securable disconnect shall be labeled and mounted adjacent to the meter location.

620 SPECIAL SOCKETS

All special sockets, such as apartment panels, recessed, mobile home parks, socket and switch, or socket and transfer, must have RPU's approval prior to installation.

621 RPU OWNED EQUIPMENT

Any metering equipment furnished by RPU, such as meters, instrument transformers, relays, totalizers, test switches, etc., remain the property of RPU. If the equipment has to be removed or disconnected for any reasons, please call RPU so that the equipment can be picked up.

622 TEMPORARY REMOVAL OF CUSTOMER OWNED METER SOCKETS BY RPU PERSONNEL FOR SIDING INSTALLATION AND/OR REPAIRS

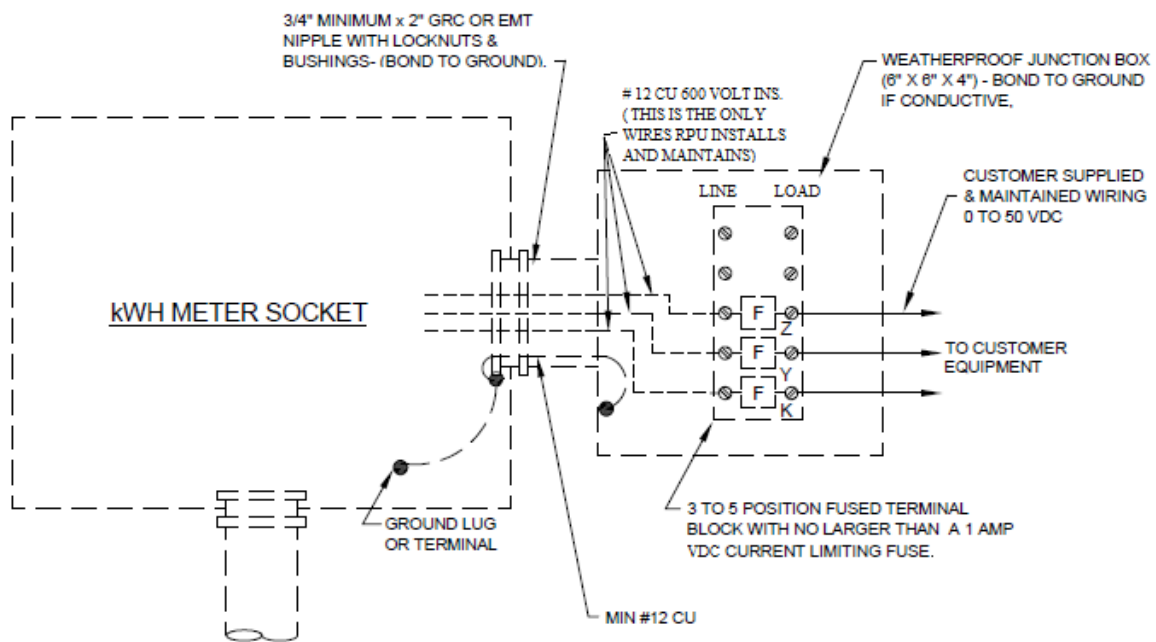
RPU will temporarily remove meter sockets from premise walls for siding purposes on single and duplex meter sockets. Any meter housing containing more than two meter sockets for removal, will be at the discretion of RPU's personnel. Should RPU's personnel not be able to perform the work, it will be up to the customer to hire an electrician/contractor to perform the task. If at any time safety is a concern, RPU will have the service de-energized to perform the work. The customer/contractor shall contact RPU two (2) business days in advance to schedule the temporary removal of the meter socket for siding purposes.

623 PULSE INITIATING DEVICE

Upon the customer's request, the customer/contractor will install a pulse-initiating device on a customer's existing meter socket. To initiate a request for a pulse-initiating device, the customer shall contact RPU. The customer should submit, in writing, all technical information concerning the customer's

load-monitoring equipment to RPU. RPU will determine what type of pulse and the amount of pulses available in a given time interval. The customer/contractor will install a weatherproof junction box, a 3 to 5 position fused terminal block, a 3/4 inch galvanized rigid conduit with ground wire from the meter socket to the weatherproof junction box. The customer will furnish, install and maintain all necessary equipment. This wiring will be in accordance with the requirements of the electrical code governing such installation with RPU stipulation that one-amp current limiting fuses be installed on the load side of the terminal block. RPU will then install pulse-initiating device and wiring from the meter socket to the terminal block. Note: RPU's responsibility and liability ends at the line side of the terminal block. **RPU reserves the right to interrupt pulses at any time in order to test or change the meter and to change the pulse value whenever it becomes necessary to upgrade the metering equipment. Every effort will be made to notify the customer when it becomes necessary to interrupt pulses for equipment maintenance. The customer will be notified of any change to the pulse values.**

CUSTOMER CONNECTIONS FOR PULSE-INITIATING DEVICE INSTALLATION



PULSE INITIATING DEVICE INSTALLATION

SECTION 700

CUSTOMER UTILIZATION EQUIPMENT

The customer's service entrance and utilization equipment shall be installed in accordance with all local, state, and National Electrical Code® requirements. It is the intent of this section to provide the customer with recommendations concerning factors that can affect both RPU and the customer in the selection, installation, maintenance, and operation of the customer's utilization equipment. If concerns arise that are not covered in this section, please contact a RPU Customer Service Representative for assistance.

701 PROTECTION OF CUSTOMER EQUIPMENT

701.1 General – The customer is advised to provide adequate protection against the effects of outages or voltage spikes in accordance with the National Electric Code® or other pertinent sources of information for all types of motors and other equipment. Equipment that should be protected includes, but is not limited to:

- (1) Motors
- (2) Computers
- (3) Electronic Equipment
- (4) Equipment in which computers or electronics form an integral operating part

701.2 Protection Conditions – Equipment should be protected under all conditions, including:

- (1) Overload
- (2) Voltage Loss
- (3) High or low voltage
- (4) Phase loss (e.g. single phasing on polyphase motors)
- (5) Re-establishment of service after any of the foregoing
- (6) Phase reversal
- (7) Motors that cannot be subjected to full voltage on starting
- (8) Harmonics or wave form irregularities

701.3 Failure to Protect – Failure to provide such protection may result in needless damage to equipment and the expense of delay and repair.

701.4 Sensitive Electronics – Sensitive electronics, such as microprocessor-based home electronics and business computers, are susceptible to damage due to voltage spikes or surges. Before any microprocessor-based electronics are installed:

- (1) Wiring practices that meet manufacturer specifications need to be assured (e.g. proper grounding and dedicated circuits are important)
- (2) Consideration should be given to installation of transient voltage surge suppression
 - a) At the main service entrance
 - b) At the point of use
- (3) An uninterrupted power supply (battery backup) should be considered if a momentary voltage dip or outage would cause loss of data

702 MOTOR STARTING CURRENTS

702.1 General – Typically, all motors require a starting current substantially greater than their normal running current. Where starting currents are excessive, an abnormal drop in supply voltage will result. In order to minimize the unfavorable effects of such voltage drops, it is essential that the customer's motors do not exceed the allowable starting characteristics as shown in Table 430-251(A and B) of the National Electric Code®.

NOTE: Customers planning to install any motor larger than 5 HP single phase or 25 HP three phase, must contact a RPU Customer Service Representative. Motor installations that cause power quality problems for other customers shall be corrected at the owner's expense.

702.2 Voltage Flicker – RPU uses IEEE Standard 141 (IEEE Red Book) as a guideline for the level of allowable flicker. Customers are not allowed to start any load on RPU's system that produces unacceptable levels of flicker which affect other customers. Customers are responsible for correcting unacceptable flicker problems in a timely manner when notified by RPU.

703 POWER FACTOR

703.1 Requirements – In order to improve the efficiency of RPU's distribution system, the customer's utilization equipment shall maintain an average power factor as close to unity as possible.

703.2 Penalties – Some of RPU's rate schedules include a demand charge and a penalty for an average power factor that is less than 95%. Details of the method of billing for such customers can be obtained from an RPU Customer Service Representative. For new services, it is suggested that the customer's utilization equipment be designed for operation at high power factor or with capacitors that are switched on and off with the equipment. Refer to Section 1200, Exhibit 1 for correcting customer's power factor.

703.3 Calculation – RPU will calculate the power factor of customers in designed rate classes by installing a varhour meter. Refer to Section 601 for customer's responsibilities in providing metering equipment.

704 FAULT CURRENTS

The customer's service equipment and other devices shall be adequate to withstand and interrupt the maximum available fault current. For single-family residences with service equipment rated 200 amperes maximum and 120/240 volts, single phase, equipment shall have a minimum interrupting rate of 10,000 amperes symmetrical and other equipment shall be braced to withstand that minimum value. Refer to Section 1003 for more information.

705 WIRING ADEQUACY

The National Electrical Code® (NFPA No. 70) specifies the adequacy of wiring with respect to safety, but such installations may not be efficient, convenient, or adequate for good service of future expansion of electrical use. In many instances, the installation of wiring capacity greater than minimum code requirements is strongly recommended.

706 CUSTOMER-OWNED GENERATING EQUIPMENT

Unless authorized by written agreement, electric generating equipment installed by the Customer shall not be interconnected or operated in parallel with RPU's system. The customer shall own, install, operate, and maintain electrical interlocking equipment which will prevent parallel operation and such equipment shall be approved by RPU prior to installation. Please contact RPU for specific requirements relating to generation installations designed to operate in parallel with RPU's distribution system (e.g. solar, wind, etc.)

707 CUSTOMER'S OBLIGATIONS

707.1 Increased Load – In the event the customer desires to increase load materially, such as adding electric heat, increased motor loads, etc., they shall give RPU sufficient advance notice, so that RPU may provide added facilities if necessary. If the customer fails to notify RPU and RPU's equipment is damaged as a result of such increased load, the customer shall reimburse and make payment to RPU for all such damages.

707.2 Balancing of Load – Except in the case of three-phase, four-wire delta services, the current unbalance in three-phase services shall not exceed 10 percent of the current that would be required at maximum load under balanced conditions.

707.3 Total Harmonic Distortion (THD) Requirements

- (1) Nonlinear Load – The application of any nonlinear load by the customer (e.g. static power converters, arc furnaces, adjustable speed drive systems, etc.) shall not cause voltage and/or current Total Harmonic Distortion (THD) levels greater than industry accepted levels on RPU's electric system at the point of power delivery to the customer's facility (Refer to IEEE Standard 519)
- (2) Nonlinear Load Disclosure – the customer shall disclose to RPU all nonlinear loads prior to connection. RPU may test the customer's load to determine the THD levels
- (3) Nonlinear Load Responsibilities – It shall be the responsibility of the customer to assure that the THD requirements are met, including the purchase of necessary filtering equipment. Any load found not in compliance with this policy shall be corrected immediately by the customer at the customer's expense. If not corrected, RPU may disconnect service to the customer's facility
- (4) Nonlinear Load Damages – The customer shall be liable for all damages, losses, claims, costs, expenses and liabilities of any kind or nature arising out of, caused by, or in any way connected with the application by the customer of any nonlinear load operating with maximum THD levels in excess of the values stated in Section 707.3(1) above. The customer shall hold harmless and indemnify RPU from and against any claims, losses, costs of investigation, expenses, reasonable attorney's fees, damages and liabilities of any kind or nature arising out of, caused by, or in any way connected with the application by the customer of any nonlinear load operating with maximum THD levels in excess of the values stated in Section 707.3(1) above

SECTION 800

OVERHEAD SECONDARY SERVICES

RPU will supply overhead secondary service (600 volts or less), in areas where overhead facilities are available, at the voltages and under the conditions specified in other sections of this publication. The service entrance location will be specified by RPU. This section includes information on distribution transformer size, overhead service drop, and connections to the customer's premises or equipment. Metering and customer equipment requirements are covered in other sections of this publication. The requirements of this section apply to all residential, commercial, and industrial customers.

801 MAXIMUM TRANSFORMER SIZE

801.1 Maximum Size – The maximum standard overhead transformer size installed by RPU will be either one 50 kVA transformer for a single-phase application or three 15 kVA transformers for multiphase applications. If a larger transformer size is required for a particular application, it shall be a pad-mounted type.

801.2 Number of Secondary Services – One (1) or more secondary services may be supplied from a transformer; the number of services from a transformer shall be determined by RPU depending upon the application.

802 SERVICE DROP CONDUCTORS

802.1 New Services – The service drop for new services will be a twisted wire triplex (3 wires) or quadruplex (4 wires) configuration from the distribution system to the point of attachment on the customer's premises.

802.2 Existing Services – The service drop may either be a twisted wire or open wire configuration. If necessary for various reasons, RPU may change a service from an open wire to a twisted wire configuration.

803 CLEARANCES

803.1 Required Clearances (Roofs, Balconies & Window/Door) – The service drop must be so located that the minimum clearance as specified in the latest editions of the National Electrical Code® and the National Electric Safety Code® are maintained. Illustration drawings of the clearances required are shown in Section 1100, Exhibits 4, 4.1, 4.2 and 4.3. **It is strongly recommended that the customer contact RPU's Engineering Department if the service is going to pass over a roof, balcony/deck, or within 5 feet of a**

window/door. RPU will not energize an electric service with an observed clearance violation.

803.2 Required Clearances (Pools & Hot Tub) – Service drop conductors must be located so that the minimum clearance as specified in the latest editions of the National Electrical Code® and the National Electric Safety Code® are maintained. Illustration drawings of the clearances required are shown in Section 1100, Exhibits 4.3, 4.4 and 4.5. It is strongly recommended that the customer contact RPU's Engineering Department if the service is going to pass over a pool or hot tub. RPU will not energize an electric service with an observed clearance violation.

804 POINT OF ATTACHMENT

804.1 Buildings – A solid point of attachment for supporting the service drop on the building shall be provided by the customer at a point which will comply with previously stated clearances in Section 803. Where the required heights and clearances cannot be maintained by a point of attachment on the building, the customer shall provide a service mast which is of a permanent nature and of sufficient strength to support the service drop at the required minimum clearance. Illustration drawings of the attachment clearances and service mast installations are shown in Section 1100, Exhibits 6 and 6.1. In such an installation, 2-inch or larger galvanized iron conduit or 3-inch or larger rigid aluminum conduit shall be used. RPU reserves the right to decline to connect its service drop to an extension support, which, in its judgment, constitutes a hazard to life or property.

805 SERVICE ENTRANCE

805.1 Location – The customer's service entrance wiring shall terminate at a point so located that the service drop from the supply lines will not interfere with windows, doors, awnings, drainpipes, or other parts of the building or other obstructions so that only one bracket is required.

805.2 Customer's Responsibility – Customer's portion of the service entrance shall consist of conduit from the meter socket, a weather head, and wire. Tails shall be left on the customer's service wires extending a minimum of three (3) feet beyond the weather head. The neutral wire shall be identified and shall be continuous (no cut) from the weather head to the entrance switch (unless otherwise approved by RPU).

SECTION 900

UNDERGROUND SERVICES

901 NEW RESIDENTIAL DEVELOPMENTS

901.1 Point of Delivery – RPU will designate a point of delivery for the connection of the customer's secondary underground service. The point of delivery may be the secondary terminals of a pad-mounted transformer, service pedestal, or secondary vault. In general, RPU will install, own, operate, and maintain all facilities on the source side of the point of delivery, including the junction cabinet and connections; the customer will install, own, operate, and maintain all secondary cables, conduit, and related service equipment specified in other sections of this publication on the load side of the point of delivery.

Exception: The developer of a new subdivision is responsible, during general development, for installing road crossing conduits per RPU specifications. (Refer to Section 1100, Exhibit 12.)

901.2 Point of Delivery Location – Points of delivery will be located within RPU's easement area along or near a front or rear property line unless it is necessary or desirable to designate locations which are closer to the metering point(s). In such cases, the customer will be charged for the installed cost of any additional lengths of underground distribution cable and conduit from the property line to the point of delivery. Such charges shall be in addition to any other charges specified herein.

901.3 Responsibilities – Additional information regarding RPU and customer responsibilities for URD installations is provided in Section 1100, Exhibit 9.

902 RESIDENTIAL UNDERGROUNDING IN OVERHEAD AREAS

902.1 Customer Initiated – Customers residing in residential zones presently served by overhead lines may request underground electric service. Customers intending to relocate, upgrade, or replace an existing overhead service may request underground service. In either situation, the customer shall own, operate, and maintain the facilities specified in Section 901 above.

902.2 Additional Customer Responsibilities – Customers replacing an existing overhead service with an underground service will install the service conductors to an RPU installed secondary pedestal. The location of the pedestal will be determined by RPU. The customer should contact RPU's Engineering Department for more details prior to proceeding.

903 UNDERGROUND SERVICE TO COMMERCIAL AND INDUSTRIAL CUSTOMERS

903.1 Where Required – RPU requires the underground installation of primary and secondary distribution service to new commercial and industrial structures.

903.2 Point of Delivery – RPU will designate a point of delivery for the connection of the customer's secondary underground service lateral. The point of delivery will normally be the secondary terminals of a pad-mounted transformer placed at a mutually agreeable location on the customer's property, as close as practicable to the metering point.

903.3 RPU Owned Material – RPU will install, own, operate, and maintain the primary underground cable, the distribution transformer, and the secondary connections at the distribution transformer.

903.4 Conduit Required (RPU Underground Facilities) – If underground primary distribution facilities are located on the customer's property, the customer or their electrical contractor shall provide the conduit from a designated point of interconnection to the distribution transformer.

903.5 Conduit Required (RPU Overhead Facilities) – If overhead main distribution facilities are located on or adjacent to the customer's property, the customer shall provide conduit from the riser pole, including the long sweep elbows, to the pad-mounted distribution transformer. Refer to Section 1100, Exhibit 8 for details.

903.6 Concrete Transformer Pad – The customer shall install, own and maintain a concrete transformer pad constructed to RPU specifications. If the transformer is located in an area where it may be subject to physical damage (e.g. from vehicular traffic), RPU may require the customer to furnish and install an approved means of protection (such as bollards).

903.7 Customer Owned Material – The customer shall install, own, and maintain all secondary cables, conduits, and cabinets from the transformer or secondary pedestal to the building service entrance.

- (1) Secondary Bus Duct – RPU must approve the design of all secondary bus duct and cable bus designs. The installation may be inspected by RPU and the secondary connections to the transformer and the transformer side of the connection cabinet will be made by RPU
- (2) Customer Coordination – It is the customer's responsibility to coordinate with and provide the necessary information to RPU to assure that adequate connections are made at the secondary terminals of the transformer

903.8 Metering – RPU will furnish and install the meter set in accordance with the requirements of Section 600.

903.9 Maximum Secondary Connections – The maximum number of secondary connections available shall be:

- (1) Single Phase: Six (6) 350 MCM conductors per phase
- (2) Three Phase:

TRANSFORMER SIZE	# OF CONDUCTORS PER PHASE
45 KVA	3
75 KVA to 500kVA	6
750kVA to 2500kVA	10

- (3) The maximum size secondary conductor to be installed in a 3-phase transformer is 750 MCM. Conductors may be aluminum or copper and parallel conductors shall be of identical wire size

Exception: Where the customer's NEC[®] service ampacity requirement (as determined by others) exceeds the maximum allowable cable quantity shown above for 750 MCM copper conductors at 90°C temperature rating, contact RPU's Engineering Department for assistance.

- (4) Any service requiring more conductors per phase than listed above must utilize a customer provided secondary connection cabinet complying with the requirements of Section 904

903.10 Manhole Secondary Connections – Secondary cables installed in an RPU manhole must be copper conductor.

904 SECONDARY CONNECTION CABINETS

904.1 General – Where secondary connection cabinets are necessary, the following requirements apply:

- (1) Cabinet assemblies will be suitable for the installation and comply with all RPU and National Electric Code[®] requirements
- (2) Cabinets shall be constructed with provisions for bar-type or donut-type current transformers
- (3) Conduits from service equipment to the connection cabinet and from the transformer to connection cabinet will be furnished and installed by electrical contractor as concrete pads are being formed and poured.

Conduit systems shall meet RPU requirements. Above-grade raceway from the transformer to the connection cabinet is not allowed.

904.2 Clearance Requirements – Secondary connection cabinets must be installed such that the minimum clearance requirements for pad-mounted transformers specified in Section 1100, Exhibit 7 are maintained.

904.3 Inspections – During the required transformer pad inspection, if the secondary connection cabinet is found to be in violation of the minimum required pad-mount transformer clearances, the inspection will be marked as 'FAILED'. The contractor will need to correct the observed deficiencies and submit a new form for inspection.

905 TRANSFORMER CLEARANCES

Where pad-mounted transformers are installed, the minimum clearances specified and shown in Section 1100, Exhibit 7 must be maintained. Fences, shrubbery, manholes, junction boxes, and trees may be installed by the customer if the specified clearances are maintained, grade is not altered, and the underground cable is not endangered.

906 OTHER PAD-MOUNTED EQUIPMENT CLEARANCES

Where pad-mounted equipment such as capacitor banks, switchgear, or primary metering cabinets are installed, the following minimum clearances shall be provided:

- (1) Ten (10) feet in front of the access doors
- (2) Three (3) feet from the sides and/or back of the equipment

The above minimum clearances must be at the same grade as the equipment.

907 WINTER INSTALLATION

The customer shall be required to pay a per foot additional fee for underground cable installation, at the customer's request, after frost has been established in the ground to an average depth of 6 inches or more. The amount of the frost fee depends on the depth of the frost. RPU may require that the estimated frost charges be paid in advance of performing work.

908 INSTALLATION IN UNSUITABLE SOILS

The customer shall be required to pay an additional fee if unsuitable backfill material is encountered during the installation of RPU's facilities. The fee will be based on the cubic feet of unsuitable backfill material encountered by RPU

or our contractor during installation. RPU may require that the customer pay an estimated fee prior to performing the work.

909 TOTAL UNDERGROUNDING

RPU does not install underground vaults, manholes, or submersible transformers on customer property. If the presence of permanent structures up to the property lines, or other conditions, precludes the installation of pad-mounted equipment on the customer's property, primary service will normally be provided.

SECTION 1000

TRANSFORMERS AND TRANSFORMER DATA

1001 TRANSFORMERS

1001.1 Ownership – Necessary transformers will be installed and maintained by RPU in accordance with its established Rate Schedules and Electric Service Rules and Regulations.

1001.2 Requirements – RPU will not furnish transformers unless they are of standard size and voltage as established by RPU. The customer shall notify RPU in advance of any change in the customer's load requirements that may affect the installed transformer capacity.

1002 GROUNDING

1002.1 Grounded System – All service systems that operate below 600 volts contain a grounded neutral or a grounded phase conductor used as a circuit conductor in the system. The grounded neutral or grounded phase conductor is grounded at the supply transformer and will be run from the transformer bank to the meter socket and to each service disconnection means in accordance with National Electric Code® Article 250.24(B), or as may be amended.

1002.2 Ungrounded System – Customers requiring an ungrounded service for operation of a ground detection system, or for other operations permitted by the National Electric Safety Code®, shall submit an exception request detailing the special circumstances necessitating the request. In addition, the customer shall state in the exception request that he is aware of and accepts the increased risk to personal safety associated with an ungrounded service. When supplying an ungrounded service results in an additional cost to RPU, the additional cost may be passed on to the customer.

1003 SPECIAL RULES

1003.1 Customer Furnished Equipment – When a customer is furnished primary service by RPU and installs transformers or other equipment, in accordance with the applicable RPU rate schedule and Electric Service Rules & Regulations, RPU accepts no responsibility for maintaining or replacing the customer's transformers or other equipment if damaged or destroyed.

1003.2 Required Clearances – The customer shall provide a minimum of ten (10) feet of level clearance on the door side(s) of pad-mounted transformers for hot-stick operation and ten (10) feet level clearance on the door side(s) of

pad-mounted primary metering cabinets for instrument transformer maintenance.

1004 FAULT CURRENT

1004.1 Intention – It is RPU’s intent to address the customer’s need for information concerning fault current and transformer protective device requirements pertaining to new construction, rewiring, or additional load. Refer to the current edition of the National Electric Code®, Article 110.9 Interrupting Rating and Article 110.16 Arc Flash Hazard Warning, or as may be amended.

1004.2 Tables – Tables 10.1 through 10.3 in this Section show the maximum available RMS symmetrical fault current that may be expected at the secondary terminals of distribution transformers. Each fault current value listed in the tables is based on the percent impedance value of the transformer that might be set initially or as a replacement. No primary source or secondary line impedance has been included since it is generally relatively small, may change, and cannot be accurately forecasted.

Note: Because an overloaded transformer is typically replaced with the next larger standard size transformer, and an under-loaded transformer may be replaced with the next smaller standard size transformer, the customer is encouraged to use this range of transformers to perform their analysis and select equipment such as fuse or circuit breakers and service entrance bus bar bracing. When selecting the fault current interrupting rating of the customer protection devices, the customer should also take into account the minimum size transformer that would be required to serve the load rating of the customer main protection device.

1004.3 Variability – Due to the variability of the transformer and electric distribution system characteristics, these tables should be used as a general guideline and shall not be used as a design tool to replace engineering that may be required by the Code Authorities having jurisdiction. Customers or contractors requiring specific fault current calculations should consult a registered professional engineer of their choice.

Note 1: All installations served from a single-phase pad-mount transformer should as a minimum use the calculations based on the installation of a 37.5 kVA transformer.

Note 2: All temporary construction meter installations may use the actual transformer size.

1005 ARC FLASH

1005.1 Intention – It is RPU's intent to address the customer's need for information concerning arc flash data requests as follows:

- (1) For secondary voltage services, RPU will provide upon request from the customer:
 - a) Transformer size, primary voltage, secondary voltage and typical transformer percent impedance
 - b) Transformer primary fuse information and size type
 - c) Calculated symmetrical bolted three-phase fault current, bolted single-line ground fault current, and calculated system impedance (R and X) at the high side of the transformer
 - d) The upstream protective device information nearest the service point. This information will include the device model, rating and applicable settings
- (2) For primary voltage services, RPU will provide upon request from the customer:
 - a) Calculated symmetrical bolted three-phase fault current, bolted single-line ground fault current and calculated system impedance (R and X) at the service point
 - b) The upstream protective device information nearest the service point. This information will include the device model, rating and applicable settings

1005.2 Calculations – Fault current calculations are based upon the distribution system configuration at the time of the calculations. RPU does not provide minimum fault current information or associated protective device clearing times.

1005.3 Use of Data – It is understood that this data is to be used for arc flash calculations. Parties using this data must understand that it may change due to various reasons. RPU will not notify the customer when such changes occur.

1005.4 Table Data – Tables 10.1 through 10.3 in this Section are only intended to provide the basic information necessary for secondary service customers to make their own internal system fault current and basic arc flash calculations. Primary service customers will still need to consult with RPU's Engineering Department to obtain fault current and protective device information for their service locations.

Note: As a safety measure, RPU recommends that when customers are performing maintenance work on or near exposed electrical equipment that their electrical system be de-energized whenever possible.

SINGLE-PHASE PADMOUNT TRANSFORMERS									
EXPECTED SINGLE-PHASE FAULT CURRENTS (IN RMS AMPS) AT THE SECONDARY TERMINALS									
TRAN KVA	TRAN		TRAN		TRAN %X	Fault Current 240 V Secondary	Protective Device, Overhead Fuse		
	%Z	%R	%X				7960 V Primary	Bay-O-Net	Rating (A)
10	1.0	0.39	0.92			4,170		4000358C03	3
15	1.0	0.39	0.92			6,250		4000358C03	3
25	1.0	0.32	0.95			10,420		4000358C05	8
37.5	1.0	0.25	0.97			15,630		4000358C05	8
50	1.1	0.57	0.94			18,940		4000358C05	8
75	1.1	0.38	1.03			28,410		4000358C08	15
100	1.1	0.34	1.05			37,880		4000358C08	15
167	1.2	0.34	1.05			57,990		4000358C10	25
TRAN KVA	TRAN		TRAN		TRAN %X	Fault Current 480 V Secondary	Protective Device, Overhead Fuse		
	%Z	%R	%X				7960 V Primary	Bay-O-Net	Rating (A)
15	1.1	0.39	1.03			2,840		4000358C03	3
Note: Bay-O-Net fuse is a Cooper or equivalent									

Table 10.1 Single Phase Underground

SINGLE-PHASE OVERHEAD TRANSFORMERS												
EXPECTED SINGLE-PHASE FAULT CURRENTS (IN RMS AMPS) AT THE SECONDARY TERMINALS												
TRAN KVA	TRAN %Z	TRAN %R	TRAN %X	Fault Current 240 V Secondary	TRAN %Z	TRAN %R	TRAN %X	Fault Current 120 V Secondary	Protective Device, Overhead Fuse 7960 V Primary Typical	Limited Use		
10	1.2	0.35	1.15	3,470	1.48	0.53	1.38	5,630	1.5X	6 ELF		
15	1.2	0.66	1.00	5,210	1.56	0.99	1.20	8,010	2X	6 ELF		
25	1.2	0.50	1.09	8,680	1.51	0.75	1.31	13,800	3.5X	6 ELF		
37.5	1.2	0.39	1.13	13,020	1.48	0.59	1.36	21,110	5.5X	8 ELF		
50	1.2	0.43	1.12	17,360	1.49	0.65	1.34	27,960	7X	12 ELF		
75	1.2	0.17	1.19	26,040	1.45	0.26	1.43	43,100	10X	18 ELF		
167	1.2	0.17	1.19	57,990	1.45	0.26	1.43	95,980	25KS	18 ELF		

Table 10.2: Single Phase Overhead

THREE-PHASE PADMOUNT TRANSFORMERS									
EXPECTED THREE-PHASE FAULT CURRENTS (IN RMS AMPS) AT THE SECONDARY TERMINALS									
TRAN KVA	TRAN %Z	TRAN %R	TRAN %X	Fault Current 120/208 V Secondary	Fault Current 277/480 V Secondary	Transformer Protective Device			
						Current Limiting		BAY-O-NET	
45	1.3	1.04	0.78	9,600	NA	Cooper or Equivalent		Cooper or Equivalent	
75	1.3	0.70	1.10	16,000	6,900	3544040M61M		4000358C05	
112.5	1.4	0.49	1.31	22,300	9,700	3544100M51M		4000358C05	
150	1.4	0.35	1.36	29,700	12,900	3544100M51M		4000358C05	
225	1.4	0.43	1.33	44,600	19,300	3544125M61M		4000358C08	
300	1.4	0.48	1.32	59,500	25,800	3544125M61M		4000358C08	
500	1.6	0.40	1.55	86,700	37,600	3544080M51M (2 in parallel)		4000358C10	
750	4.5	0.39	4.48	46,300	20,000	3544150M51M (2 in parallel)		4000358C12	
1,000	5.1	0.32	5.09	54,400	23,600	3544150M51M (2 in parallel)		4038361C03CB	
1,500	5.1	0.36	5.09	NA	35,400	3544150M51M (2 in parallel)		4038361C04CB	
2,000	5.1	0.43	5.08	NA	47,200	3544125M61M (2 in parallel)		4038361C05CB	
2,500	5.1	0.33	5.09	NA	59,000	3544175M51M (2 in parallel)		4038361C05CB	

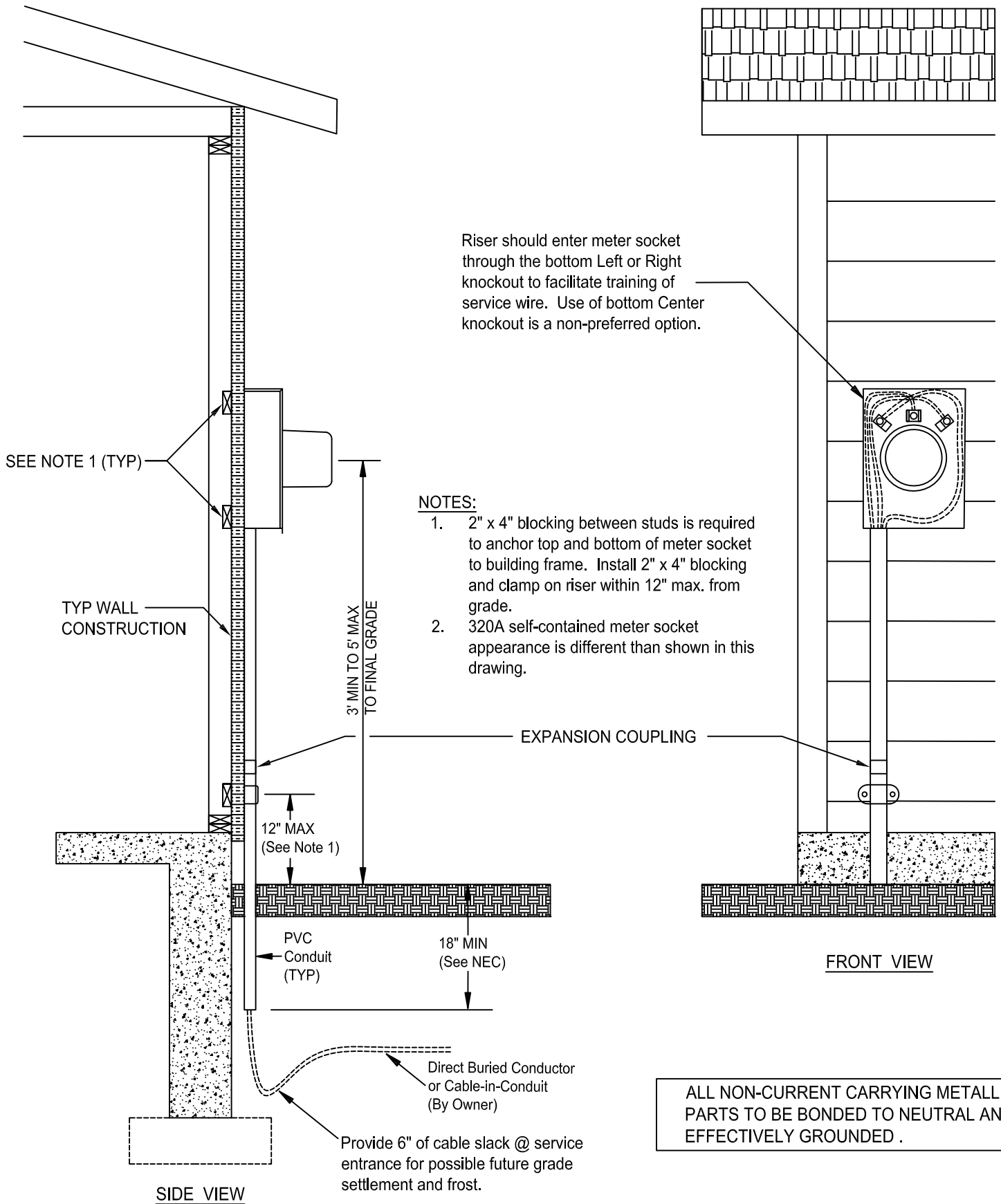
Table 10.3: Three Phase Pad-mount Transformers

SECTION 1100

EXHIBIT DRAWINGS

EXHIBIT

- | | |
|------|--|
| 1 | Typical Underground Residential Metering Arrangement |
| 2 | Typical Mobile Home Metering Arrangement |
| 3 | Typical Multiple Metering Arrangement |
| 4 | Service Conductor Clearances (480V and below) |
| 4.1 | Service Conductor Clearances from Balconies & Windows |
| 4.2 | Secondary Conductor Clearances over Roofs |
| 4.3 | Service Conductor Clearances to Patios and Pools |
| 4.4 | Service Conductor Clearances to Aboveground Swimming Pool With Deck |
| 4.5 | Service Conductor Clearances to Aboveground Swimming Pool Without Deck |
| 5 | Overhead Supply Secondary Temporary Service Installation |
| 6 | Typical Residential Service Mast Installation with Guying |
| 6.1 | Typical Residential Under Eaves Service Installation |
| 7 | Clearance Requirements of Pad-Mounted Transformers |
| 8 | RPU and Customer Responsibilities Associated with Non-Single Family Underground Installations |
| 9 | RPU and Customer Responsibilities Associated with Underground Single Family Residential Distribution (URD) Installations |
| 10 | Installation Guidelines |
| 11 | Meter Socket Types |
| 11.1 | Required Meter Working and Safety Clearances |
| 12 | Road Crossing Conduit Installation |

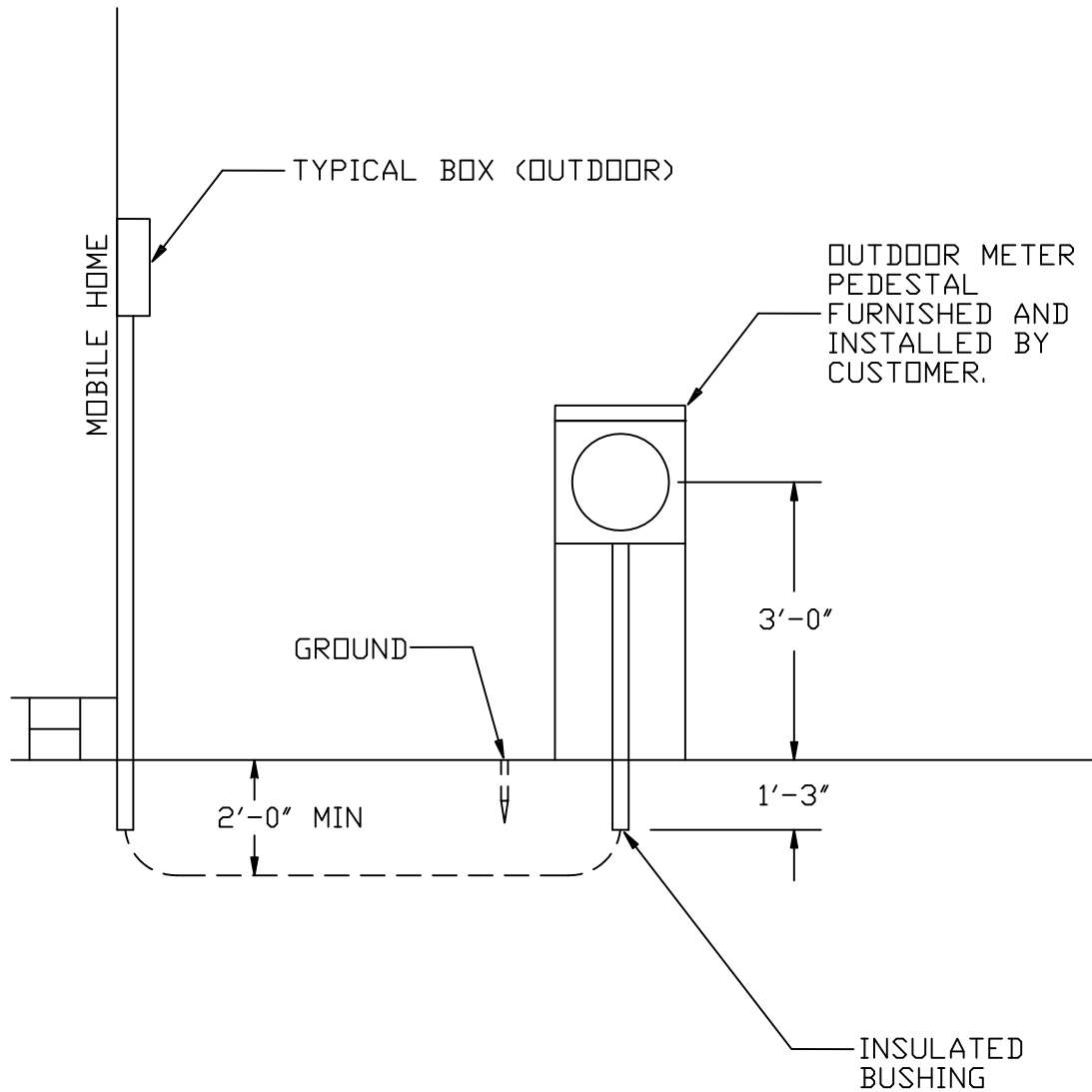


ROCHESTER PUBLIC UTILITIES

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TYPICAL RESIDENTIAL UNDERGROUND
SERVICE METER INSTALLATION

EXHIBIT



NOTES:

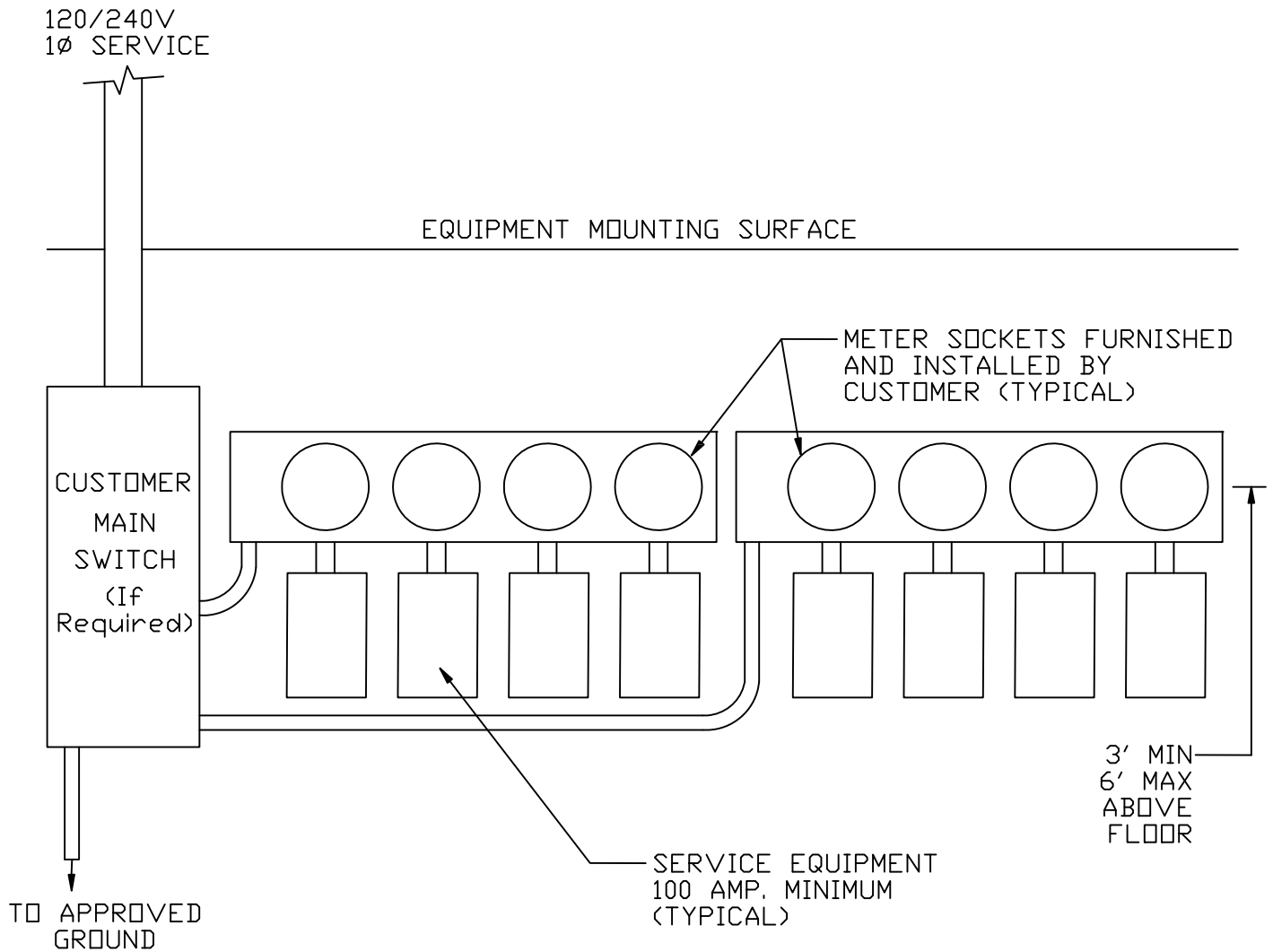
1. All meters shall be permanently labeled.
2. Meters are to face towards street.
3. Service lateral from the secondary junction at the property line, to the meter pedestal, to the mobile home, is the responsibility of the customer.

ROCHESTER PUBLIC UTILITIES

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TYPICAL MOBILE HOME METERING
ARRANGEMENT

EXHIBIT
2

NOTES:

1. All meters shall be permanently labeled.
2. All meters must have individual lock-off capability.
3. All meters must be accessible to RPU personnel and to customers.

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TYPICAL MULTIPLE METERING
ARRANGEMENT

EXHIBIT
3



The general clearances listed on the next page, under any and all conditions, include Rochester Public Utilities' requirements and interpretations derived from the NESC Rule 234 and the NEC Section 230.24. Refer to those Sections for specific conditions not depicted. Clearances for utility-owned service drops and cables, beyond the perimeter of the customer's buildings, will be controlled by the NESC requirements. The alphabetical designations and respective dimensions on the next page apply to the illustration above. Clearances shown are for multiplex (duplex, triplex, and quadruplex) service drop conductors only - open wire service conductors require greater clearance.

ROCHESTER PUBLIC UTILITIES

NO	REVISION	BY	DATE
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SERVICE CONDUCTOR CLEARANCES (480V AND BELOW)

EXHIBIT
4

CLEARANCE CONDITION:

- A- The drip loop or service attachment fixture, whichever is the lowest point, shall have 12 feet minimum vertical clearance above final grade. Higher clearances may be required, reference "G" below.
- B- The clearance between the service attachment and weatherhead shall be 12 inches minimum and 24 inches maximum.
- C- Service conductors that are not protected by conduit or raceway shall have a minimum clearance of 3 feet from windows designed to be opened, doors, porches, fire escapes, signs, and similar construction. Conductors run above the top level of a window shall be permitted to be less than the 3 feet requirement.
- D- The diagonal distance from the nearest edge of a balcony or deck handrail that is readily accessible to the service conductor shall be 10 feet minimum.
- E- The minimum vertical clearance shall be:
3.5 feet for roof slope not readily accessible to pedestrians
11.0 feet for roof slope readily accessible to pedestrians
- F- Minimum vertical clearances between service drop and communication conductors shall be 2 feet at the conductor crossing and 12 inches at adjacent vertically spaced attachments to the building.
- G- The minimum vertical clearance shall be:
12 feet above sidewalk and ground
16 feet above residential driveways
18 feet above commercial areas, public driveways, alleys and streets, and other land traversed by vehicles
20 feet above Department of Transportation right of way and others as required by local jurisdiction
- H- For individual settings, the clearance between the center of the meter and the finished grade is to be 5 feet maximum and 3 feet minimum.
- J- The dimension between the hinged side of a door and the nearest surface of the meter is to be door width plus 6 inches.
- K- A clear working space, as shown by the box in the diagram, of not less than 36 inches in front of the meter and 30 inches wide shall be maintained at all times. (*NEC* Section 110.26)
- L- The horizontal clearance from the nearest side of the meter socket enclosure to any structural protrusion shall be 3 inches minimum.
- M- Horizontal distance of electric meter to gas regulator vent is 3 feet minimum.

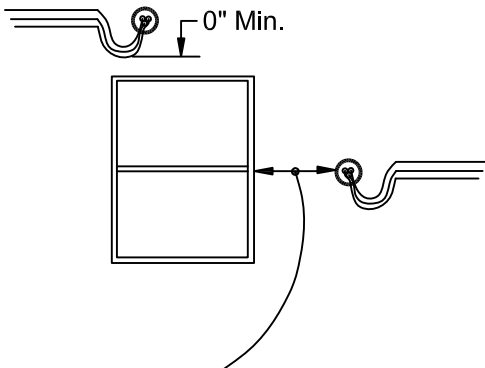
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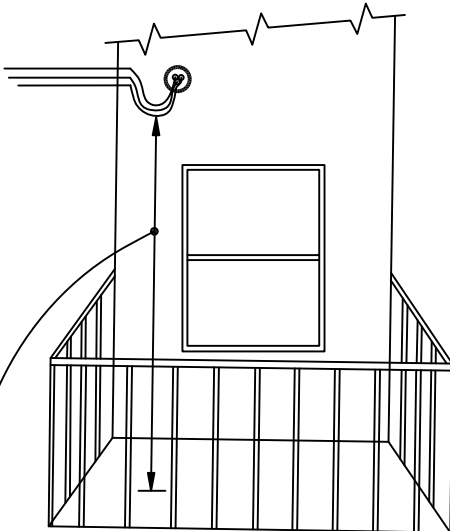
SERVICE CONDUCTOR CLEARANCES
(480V AND BELOW)

EXHIBIT.
4

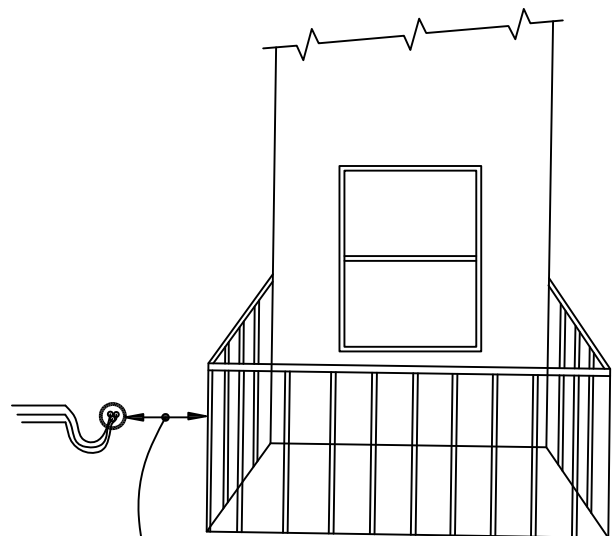
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NESC 234-1: A horizontal clearance of not less than 3' for triplex and 5'-6" for open wire must be maintained from window. Above window a 0" vertical clearance is allowed.



NESC 234-1: Open wire up to 750 volts to ground = 11'-6"
Open wire over 750 volts to ground = 13'-6"
Triplex/quadruplex = 11'-0".



NESC 234-1: Conductors shall have a horizontal clearance of 3' for triplex and 5'-6" for open wire.

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**SERVICE CONDUCTOR CLEARANCES
FROM WINDOWS AND BALCONIES**

**EXHIBIT
4.1**

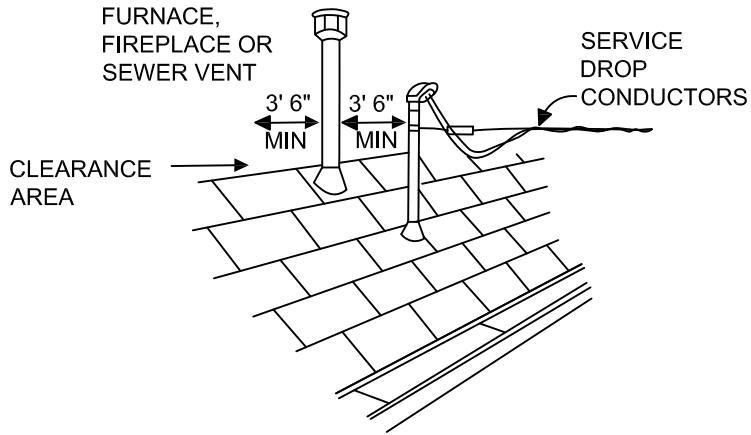


FIG. 1

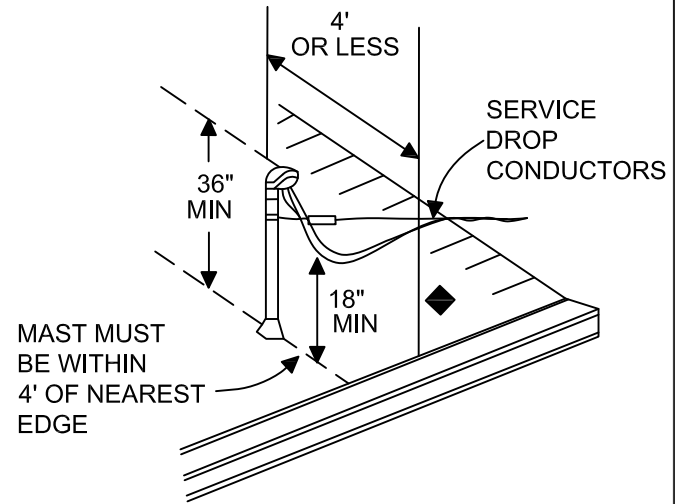


FIG. 2

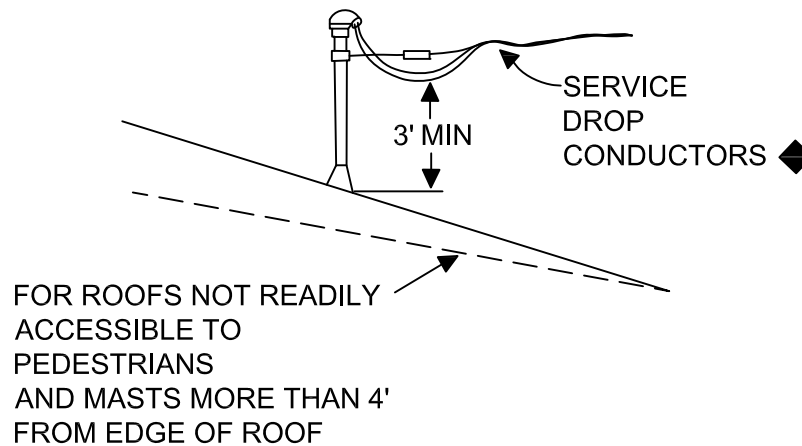


FIG. 3

- ◆ THIS VERTICAL DIMENSION APPLIES TO ANY POINT ON THE ROOF SURFACE DIRECTLY UNDER THE CONDUCTORS.

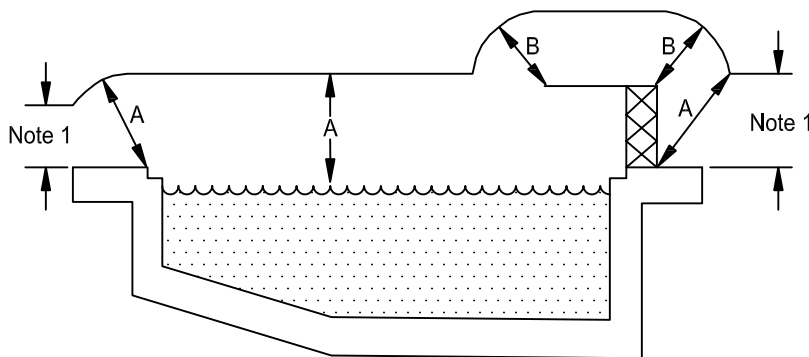
ROCHESTER PUBLIC UTILITIES

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0	ORIGINAL DRAWING	BJK	05/01/2017

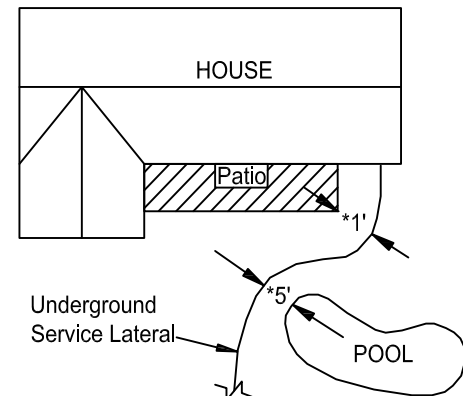
SERVICE CONDUCTOR CLEARANCES OVER ROOFS

EXHIBIT
4.2

Type of Structure Under or Next to Wire	Neutrals, Guys, Messengers; Surge protection; Wires and Communications	Duplex, Triplex, Quadraplex, Lashed 0 - 750 V	Open Supply Conductors 0 - 750 V	Primary Conductors 750 V - 22 kV
<u>Clearance In Any Direction To:</u> Edge of pool, water surface, Base of diving platform or anchored raft. (Dimension A)	22' - 0" (Note 1)	22' - 6" (Note 1)	23' - 0"	25' - 0"
<u>Clearance In Any Direction To:</u> Diving platform or Tower (Dimension B)	14' - 0" (Note 6)	14' - 6" (Note 6)	15' - 0" (Note 6)	17' - 0" (Note 6)
<u>Hot Tubs and Whirlpool Spas:</u> (Notes 4 and 5)	10' - 6"	11' - 0"	11' - 6"	13' - 6"



Clearances of Underground Secondary
Service Lateral to Patios and Pools



*These dimensions are minimum
unless cable is in conduit

NOTES:

- 0 - 750 volts except open wire HORIZONTALLY greater than 10 feet from the edge of the pool or diving platform NEEDS ONLY a vertical clearance of 12.5 feet in pedestrian only traffic areas.
- Table data is for below grade pool (as depicted).
- Values are from NESC Table 234-3.
- For hot tubs and whirlpool spas, clearance is the same as clearance from balconies, decks and areas accessible to pedestrians. Clearance would be from the highest point a person could stand to the conductor.
- For hot tubs and whirlpool spas, clearance is less than swimming pools since long handled cleaning equipment and rescue poles are not used.
- For horizontal clearance, add 2 feet for conductor swing.

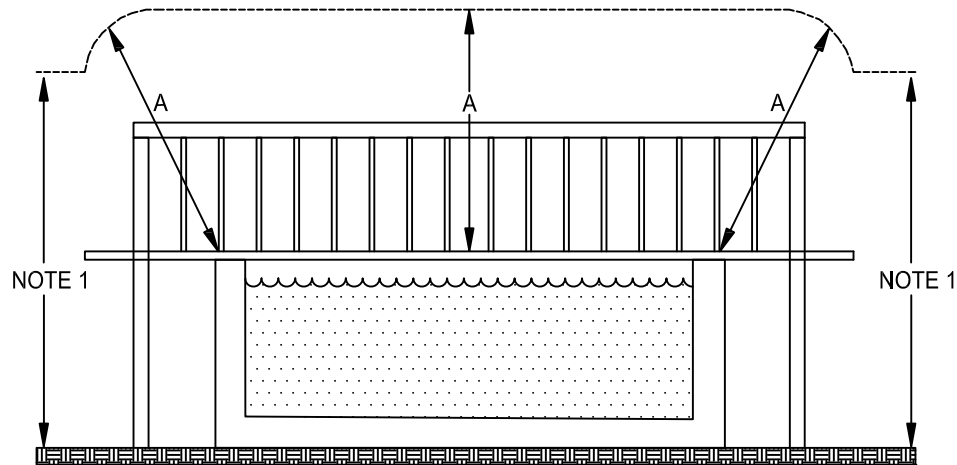
ROCHESTER PUBLIC UTILITIES

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SERVICE CONDUCTOR CLEARANCES
TO PATIOS AND POOLS

EXHIBIT
4.3

Type of Structure Under or Next to Wire	Neutrals, Guys, Messengers; Surge protection; Wires and Communications	Duplex, Triplex, Quadraplex, Lashed 0 - 750 V	Open Supply Conductors 0 - 750 V	Primary Conductors 750 V - 22 kV
<u>Clearance In Any Direction To:</u> Edge of pool, water surface, Base of diving platform or anchored raft. (Dimension A)	22' - 0"	22' - 6"	23' - 0"	25' - 0"
<u>Hot Tubs and Whirlpool Spas:</u> (Notes 2 and 3)	10' - 6"	11' - 0"	11' - 6"	13' - 6"



ABOVEGROUND SWIMMING POOL WITH DECK.
CLEARANCE IS MAINTAINED FROM THE
HIGHEST POINT OF THE INSTALLATION UPON
WHICH PEOPLE CAN STAND.

NOTES:

- 0 - 750 volts except open wire HORIZONTALLY greater than 10 feet from the edge of the pool NEEDS ONLY a vertical clearance of 12.5 feet in pedestrian only traffic areas.
- For hot tubs and whirlpool spas, clearance is the same as clearance from balconies, decks and areas accessible to pedestrians. Clearance would be from the highest point a person could stand to the conductor.
- For hot tubs and whirlpool spas, clearance is less than swimming pools since long handled cleaning equipment and rescue poles are not used.

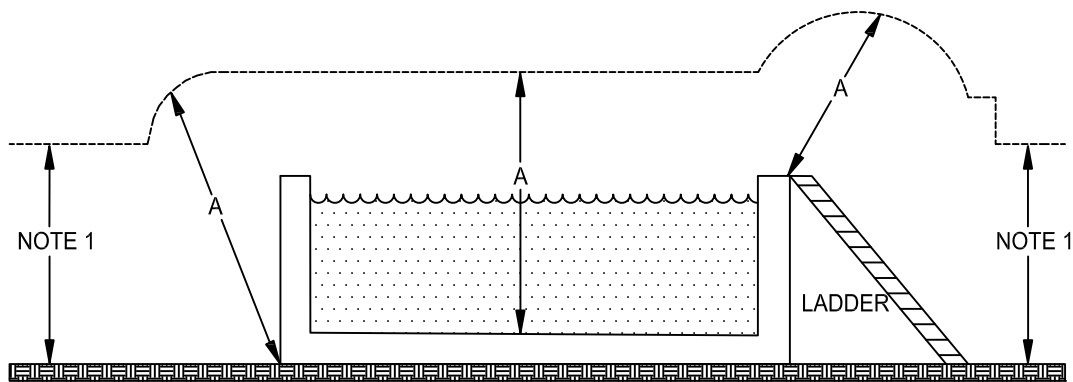
ROCHESTER PUBLIC UTILITIES

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SERVICE CONDUCTOR CLEARANCES
TO ABOVEGROUND SWIMMING POOL
WITH DECK

EXHIBIT
4.4

Type of Structure Under or Next to Wire	Neutrals, Guys, Messengers; Surge protection; Wires and Communications	Duplex, Triplex, Quadraplex, Lashed 0 - 750 V	Open Supply Conductors 0 - 750 V	Primary Conductors 750 V - 22 kV
<u>Clearance In Any Direction To:</u> Edge of pool, water surface, Base of diving platform or anchored raft. (Dimension A)	22' - 0"	22' - 6"	23' - 0"	25' - 0"
<u>Hot Tubs and Whirlpool Spas:</u> (Notes 2 and 3)	10' - 6"	11' - 0"	11' - 6"	13' - 6"



ABOVEGROUND SWIMMING POOL WITHOUT
DECK. REQUIRED CLEARANCE IS
MAINTAINED ABOVE GROUND.

NOTES:

- 0 - 750 volts except open wire HORIZONTALLY greater than 10 feet from the edge of the pool NEEDS ONLY a vertical clearance of 12.5 feet in pedestrian only traffic areas.
- For hot tubs and whirlpool spas, clearance is the same as clearance from balconies, decks and areas accessible to pedestrians. Clearance would be from the highest point a person could stand to the conductor.
- For hot tubs and whirlpool spas, clearance is less than swimming pools since long handled cleaning equipment and rescue poles are not used.

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SERVICE CONDUCTOR CLEARANCES
TO ABOVEGROUND SWIMMING POOL
WITHOUT DECK

EXHIBIT
4.5

Installation shall be outside the utility easement and located no closer than 10' minimum or 70' maximum with a conductor no larger than 4/0 from RPU's secondary supply point.

6' x 6' post or pole furnished, installed and owned by customer.

Utility pole designation = Class 7 Minimum or Class 6

Pole Height = 25' Minimum

Pole Strength = 1200 ft-lb, minimum 5'-6" embedded

Circumference = At ground line 23.5', at pole top 15'

Pole must be treated to prevent ground line decay

A 5 terminal and lever-type bypass is required on all 1-phase services. 7 terminal lever-type bypass is required on all 3-phase, 4-wire services (320A maximum).

Service riser size per NEC

Service Equipment furnished and installed by customer

Ground conductor by customer

Ground rod(s) by customer per NEC

Guying Anchor

Angle not less than 45°

Overhead service drop furnished, installed and connected by RPU

Point of Delivery

18' minimum per NEC 230.24

5' maximum
3' minimum

4' Min. for 4" x 4" support post or 10% of pole overall height plus 2'

NOTES:

1. Temporary installation shall not be attached to a RPU-owned pole.
2. Support may require additional braces to be protected from vehicular and other construction hazards.
3. Make sure area is clear of underground obstructions before installing support or ground rod.
4. Service drop shall not be at an angle of less than 45° from vertical.

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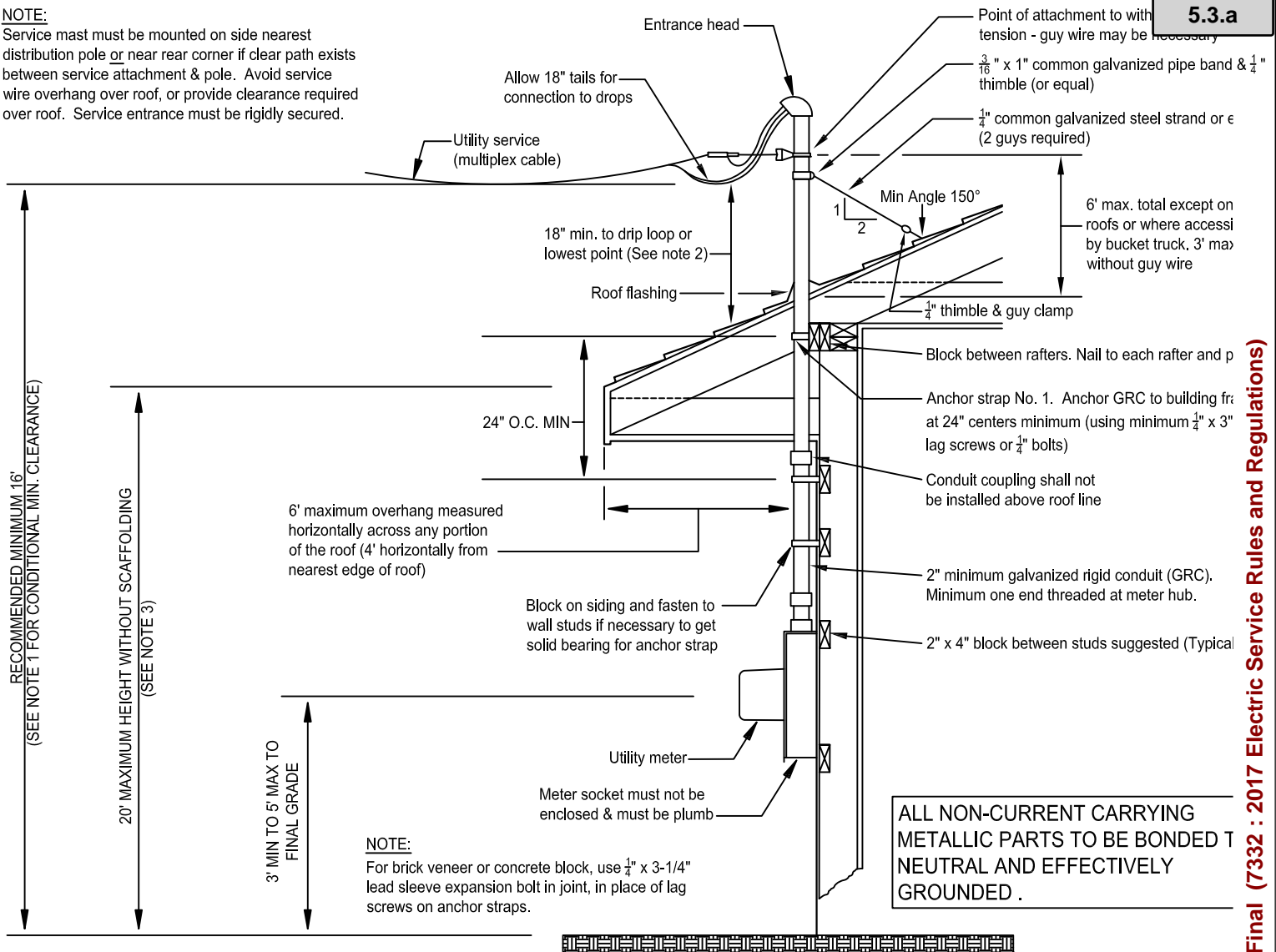
OVERHEAD SUPPLY SECONDARY
TEMPORARY SERVICE INSTALLATION

EXHIBIT

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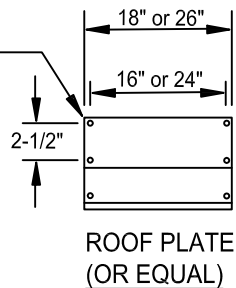
NOTE:

Service mast must be mounted on side nearest distribution pole or near rear corner if clear path exists between service attachment & pole. Avoid service wire overhang over roof, or provide clearance required over roof. Service entrance must be rigidly secured.

**NOTES:**

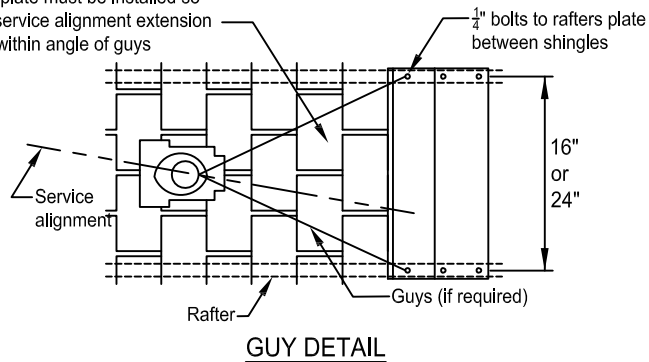
1. If the land under the cable is accessible to truck traffic or to vehicles over 8 feet in height, the minimum attachment height is 16 feet. If the area is subject to pedestrian or restricted traffic only (no vehicles over 8 feet in height), the minimum attachment height is 12 feet; refer to NESC Table 232-1.
2. If the service is crossing the roof for more than 6 feet horizontally in any direction, or more than 4 feet horizontally from the nearest edge of the roof, refer to NESC 234C3 for the appropriate clearance.
3. If the service access point (roof edge, etc.) exceeds 20 foot height above grade, and is not accessible by bucket truck, Customer is required to provide scaffolding or ladder prior to service work being performed. Scaffolding and ladder must meet OSHA safety requirements.

$\frac{3}{8}$ " eye bolts & washers with header block are acceptable, but eye lags are not. As an alternate, one guy aligned with the service wire and adequately attached to a $\frac{3}{8}$ " eye bolt (not lag) through a header block between rafters is acceptable.

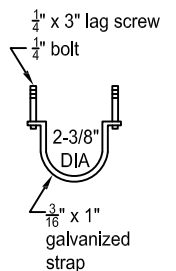


**ROOF PLATE
(OR EQUAL)**

Roof plate must be installed so that service alignment extension falls within angle of guys



GUY DETAIL



**ANCHOR STRAP
No. 1(OR EQUAL)**

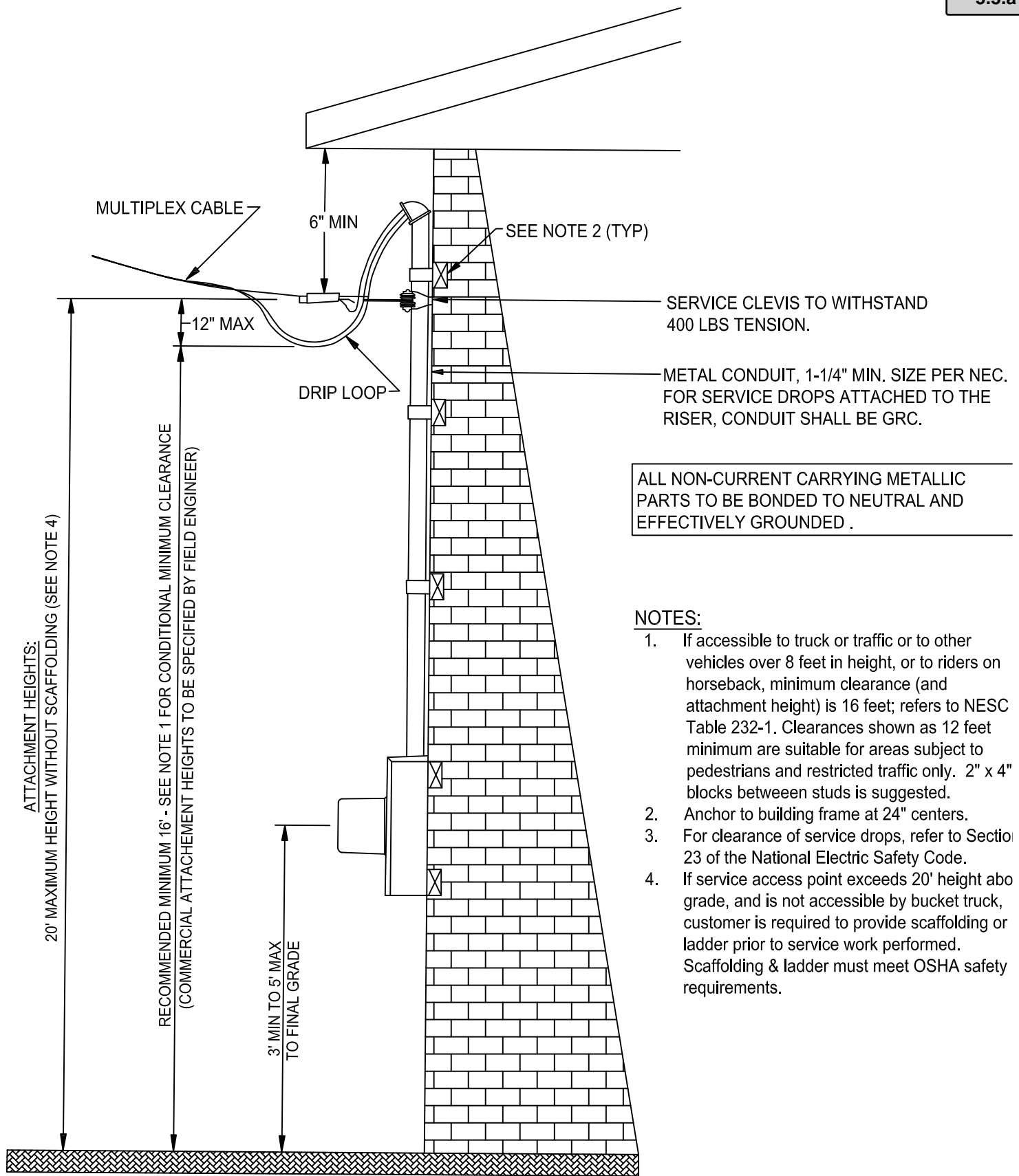
ROCHESTER PUBLIC UTILITIES

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TYPICAL RESIDENTIAL SERVICE
MAST INSTALLATION WITH GUYING

EXHIBIT

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TYPICAL RESIDENTIAL UNDER
EAVES SERVICE INSTALLATION

EXHIBIT

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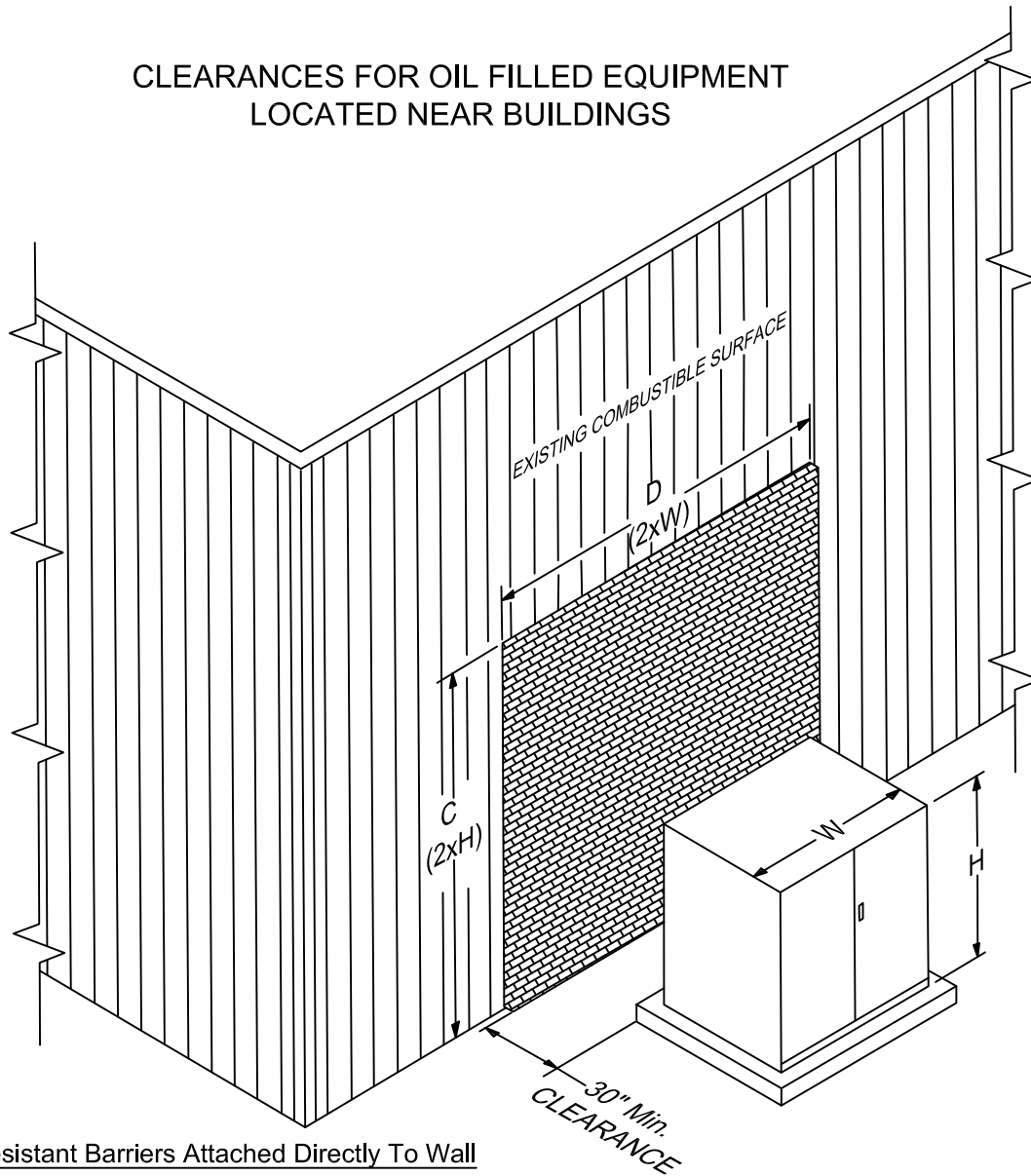
EXHIBIT 7

Clearance Requirements of Pad-Mounted Transformers

A minimum zone free of vegetation and obstructions shall be maintained around pad-mounted transformers. The minimum clearances around the transformer are 10 feet in front of the transformer doors and 2 feet from the sides and back of the transformer or the outside dimensions of the transformer pad whichever is greater. These minimum clearances must be at the same grade as the transformer. Transformers shall not be located under any overhang (roof, balcony, stairs, etc.) without customer provided and installed provisions for setting/removal of the transformer and prior approval by RPU's Engineering Department.

Additional clearance requirements depicted on the following pages shall be met if the transformer is located near a structure.

CLEARANCES FOR OIL FILLED EQUIPMENT LOCATED NEAR BUILDINGS



Fire Resistant Barriers Attached Directly To Wall

In locations where basic clearances cannot be met, a fire resistant barrier shall be installed either by the customer or at the customer's expense to reduce the required clearance to combustible walls, door air intakes or windows. The barrier shall be constructed of non-combustible material certified to have a 2 hour fire rating. It shall be of sufficient strength and have stability to resist tipping and satisfy Rochester building ordinances. If a specific ruling regarding fire ratings is necessary, contact the Rochester Fire Department. Engineering will coordinate the construction and location of the barrier, however the customer is responsible for all maintenance. The barrier will satisfy the following dimensional requirements:

H = Height in inches of oil filled equipment.

W = Width in inches of oil filled equipment.

C = Height of barrier required to obtain a projected height of two times the height of the oil filled equipment on the building wall ($2 \times H$).

D = Width of barrier required to obtain a projected width of two times the width of the oil filled equipment on the building wall ($2 \times W$).

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CLEARANCES FOR OIL FILLED
EQUIPMENT NEAR BUILDINGS

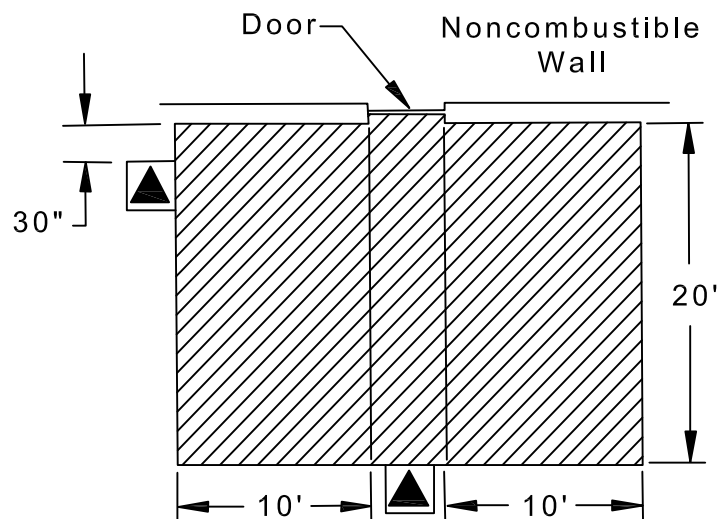
EXHIBIT
7

- I. **NONCOMBUSTIBLE WALLS:** (Included in this class would be wood framed brick veneered buildings, metal clad steel framed buildings, cement-board walled metal framed buildings, masonry buildings, and masonry buildings with a one (1) hour fire rating.)

Oil insulated, pad-mounted transformers may be located a minimum distance of 30" from noncombustible walls if all the clearances shown on this and the following drawings are maintained from doors, windows, and other building openings. A sump shall be installed for the transformer if the immediate terrain is not pitched away from the building. If a combustible first floor overhang exists, a 10' distance from the edge of the transformer to the edge of the overhang (combination of vertical and horizontal distance) shall be required in addition to the other clearances shown.

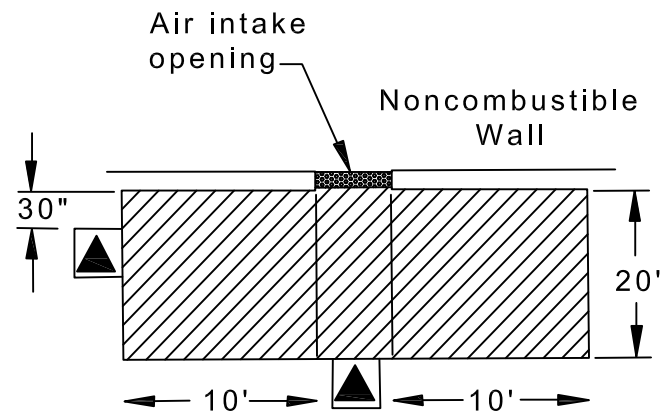
A. Doors

Oil insulated, pad-mounted transformers shall not be located within a zone extending 20' outward and 10' to either side of a building door.



B. Air Intake Openings

Oil insulated, pad-mounted transformers shall not be located within a zone extending 10' outward and 10' to either side of an air intake opening located within 10' of the ground. If the air intake opening is located more than 10' above the ground, the distance from the transformer to the opening shall be a minimum of 25'.



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PAD-MOUNTED TRANSFORMER
LOCATIONS

EXHIBIT
7

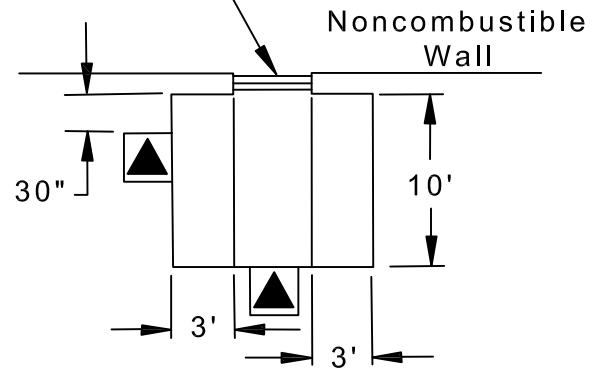
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C. Windows or Openings other than Air Intake

1. First Story

Oil insulated, pad-mounted transformers shall not be located within a zone extending 10' outward and 3' to either side of a building window or opening other than an air intake.

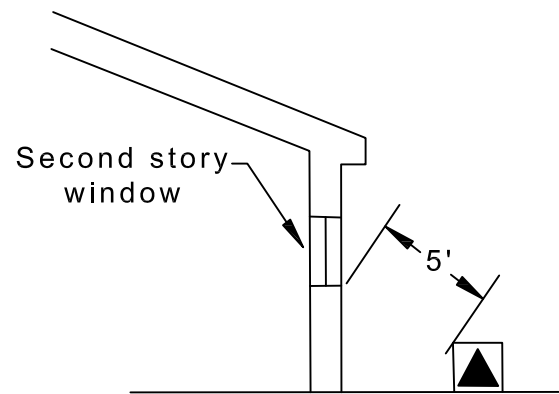
Window or opening other than air intake



2. Second Story

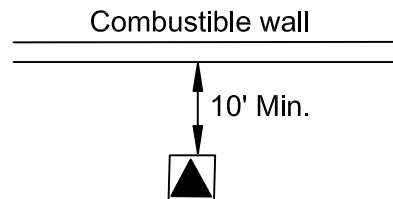
Oil insulated, pad-mounted transformers shall not be located less than 5' from any part of a second story window or opening other than an air intake.

Oil filled equipment shall not be placed below an operating window on any floor.
No exceptions will be made!



II. COMBUSTIBLE WALL

(Included in this class would be wood buildings and metal clad buildings with wood frame construction.) Oil insulated, pad-mounted transformers shall be located a minimum 10' from the building wall in addition to the clearance from building doors, windows, and other openings set forth for noncombustible walls. A sump shall be installed for the transformer if the immediate terrain is not pitched away from the building. If a combustible first floor overhang exists, a 10' distance from the edge of the transformer to the edge of the overhang (combination of vertical and horizontal distance) shall be required in addition to the other clearances as shown.



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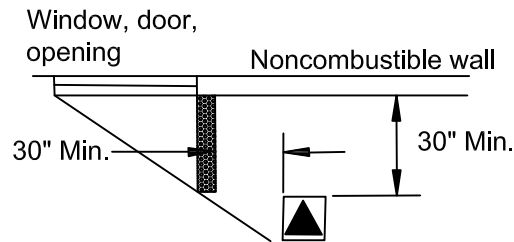
PAD-MOUNTED TRANSFORMER
LOCATIONS (CONTINUED)

EXHIBIT
7

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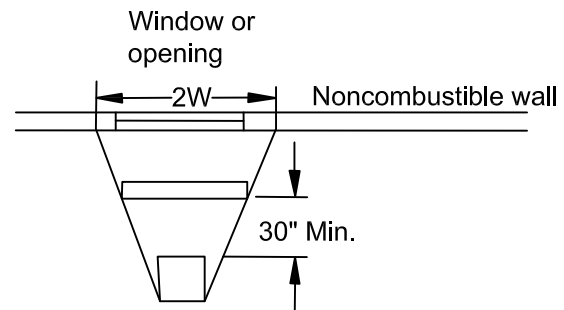
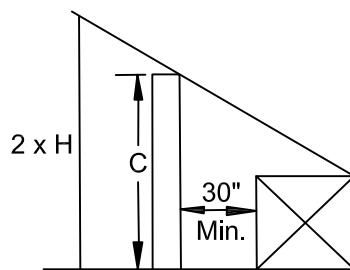
III. BARRIERS

(Included in this class are reinforced concrete, brick, or concrete block barrier walls with a 3 hour fire rating.) If the clearance specified above cannot be obtained, a fire resistant barrier shall be constructed in lieu of the separation. The barrier (when required) is provided by the customer. The following methods of construction are acceptable.



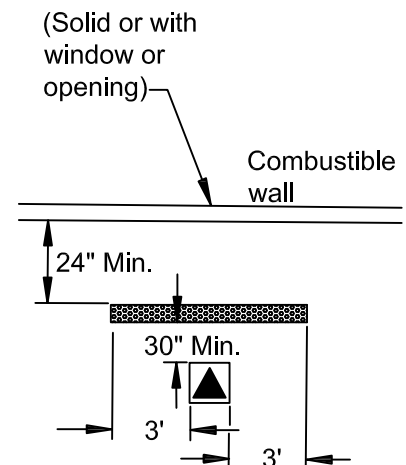
A. NONCOMBUSTIBLE WALL

The barrier shall extend to a projection line from the corner of the pad-mounted to the furthest corner of the window, door, or opening in question.



B. COMBUSTIBLE WALLS

The barrier shall extend 3' beyond each side of the oil insulated, pad-mounted transformer. The height of the barrier shall be 3' above the top of the pad-mounted transformer. If a combustible first floor overhang exists, the 24" specified shall be measured from the edge of the overhang rather than from the building wall.



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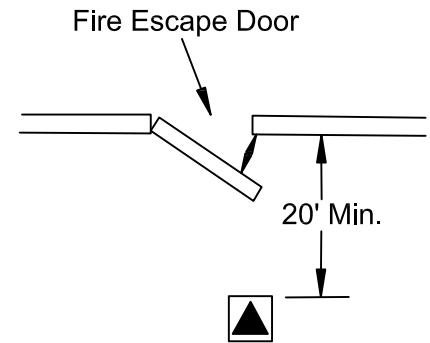
PAD-MOUNTED TRANSFORMER
LOCATIONS (CONTINUED)

EXHIBIT
7
(Continued)

IV. FIRE ESCAPES

Oil insulated, pad-mounted transformers shall be located such that a minimum clearance of 20' is maintained from fire escapes at all times.

Exception: Oil insulated, pad-mounted transformers may be located closer to a fire escape than the 20' minimum when a fire resistant barrier is constructed around the transformer (side walls and roof). The barrier shall extend a minimum of 1' beyond the transformer. The transformer and barrier shall not in any way obstruct the fire escape exit. 10' clearance is required in front of pad-mount transformer doors. Adequate transformer accessibility and ventilation must be provided. If transformer is installed underneath a fire escape, maintain 10' vertical clearance.



V. DECORATIVE COMBUSTIBLE ENCLOSURE

Decorative combustible enclosures (fence) installed by the customer around oil insulated, pad-mounted transformers adjacent to a combustible building wall shall not extend more than 24" beyond the transformer towards the combustible wall. 10' clearance is required in front of pad-mounted transformer doors. Adequate transformer accessibility and ventilation must be provided.

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PAD-MOUNTED TRANSFORMER
LOCATIONS (CONTINUED)

EXHIBIT
7

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EXHIBIT 8

RPU AND CUSTOMER RESPONSIBILITIES ASSOCIATED WITH NON-SINGLE FAMILY RESIDENTIAL UNDERGROUND INSTALLATIONS

RPU RESPONSIBILITIES

1. Designate service location and/or transformer location.
2. Supply and install pad-mounted transformer.
3. Make all primary terminations and connections.
4. Connect the customer's secondary cable to the secondary terminals of the transformer only after customer's wiring has been approved by the inspecting authority.
5. Energize the service only when authorized to do so by the inspecting authority.
6. Supply and install all primary cable at no cost to the customer after said customer furnishes and installs conduit for the entire distance from the property line to the transformer.
7. Supply and install one meter set for each customer, including all meters required for billing purposes and any accessories such as totalizers, current and potential transformers, phase-shifting transformers, test switches, and color code meter wiring.
8. Inspect customer-furnished equipment required by RPU. Installations not in compliance with RPU regulations will be rejected.

CUSTOMER RESPONSIBILITIES

1. Contact RPU to obtain the location and routing of RPU's facilities and to fill out an Application for Service, Load Data Sheet and any other forms or statements required by RPU.
2. Provide necessary easements and clear area of all construction obstructions.
3. Bring area to final grade before installation of cable and transformers. Grade changes requiring cable adjustments will result in charges to the party requiring the changes.
4. Compaction along conduit route after installation of conduit is the customer's responsibility.
5. Furnish and install a transformer pad and ground rod to RPU specifications. Contact RPU to obtain the pad specifications and transformer location (transformer location shall be truck accessible and within 15 feet of a paved surface) for the specific service being installed. Notify RPU to inspect formed pad prior to pouring concrete.
6. Provide a location for the transformer(s) that meets the clearance requirements of Exhibit 7.
7. Provide easy accessibility to area 24 hours a day.
8. Furnish and install all secondary cables, cabinets, and conduits from the transformer to the building service entrance.

EXHIBIT 8 - Continued

9. Furnish and install electrical conduit per RPU's specifications (typically schedule 40 PVC 4" or larger) with marking tape to the point of interconnection with RPU. All conduit shall be installed a minimum of 36" below final grade. All radiuses less than 60" shall be factory fabricated and shall be made of schedule 40 galvanized rigid metallic conduit. Minimum elbow (bend) radius shall be 36 inches. Furnish and install pull rope in conduit.
10. Install protective bollards if RPU facilities (i.e. transformer, junction cabinet, pad-mount switchgear, etc.) will be installed in parking area or area subject to vehicular traffic.
11. Protect RPU facilities from damage during construction period.
12. Have all required inspections of facility performed and approved.
13. Notify RPU prior to any proposed building or grade changes within 10 feet of the electrical service or the cable route.
14. Supply and install RPU approved meter socket on outside wall or approved location and install conduit for service cable.
15. Notify RPU as far in advance as possible when any unusual loads are anticipated, such as special medical equipment, arc welders, elevators, or any other equipment that could affect RPU's system or any other customer.
16. Pay all applicable RPU fees.

EXHIBIT 9

RPU AND CUSTOMER RESPONSIBILITIES ASSOCIATED WITH UNDERGROUND SINGLE FAMILY RESIDENTIAL DISTRIBUTION (URD) INSTALLATIONS

RPU RESPONSIBILITIES

1. Designate point of delivery or transformer location.
2. Supply and install all primary cable, transformer pads, and pad-mounted transformers.
3. Make all primary terminations and connections and install the grounding system.
4. Connect customer's secondary cables to RPU's point of delivery after customer's wiring has been approved by the inspecting authority.
5. Install the meter and any other meter accessories needed for billing purposes, excluding the meter socket.
6. Energize the service only when authorized to do so by the inspecting authority.
7. Supply and install secondary connection pedestals and secondary cable to the pedestals.

CUSTOMER RESPONSIBILITIES

1. Contact RPU to obtain the location of RPU's facilities and customer service point and to fill out an "Application for Service," and any other forms or statements required by RPU.
2. Provide necessary easements and clear area of all construction obstructions.
3. Bring area to final grade before installation of cable and transformers. Install grade stakes at all front lot line property corners. Grade changes requiring cable adjustments will result in charges to the party requiring the changes.
4. In new developments, install road crossing conduits per Exhibit 12 as designated by RPU in the general development specifications.
5. Allow RPU to install cable/conduit prior to installation of sidewalks, soil or lighting along cable route.
6. Compaction of customer installed (buried) cable is customer's responsibility. (RPU will compact all primary and secondary cable it buries.)
7. Provide firm soil conditions under the pad area to prevent settling of the pad.
8. Provide a location for the transformer or secondary pedestal that meets the clearance requirements outlined in Exhibit 7.
9. Protect RPU facilities from damage during construction period.
10. Provide easy accessibility to the area 24 hours a day.
11. Have wiring approved by inspecting authority and then request service connection by RPU.
12. Install protective bollards if RPU facilities (i.e. transformer, junction cabinet, pad-mount switchgear, etc.) will be installed in parking area or area of vehicular traffic.

EXHIBIT 9 – Continued

13. Notify RPU prior to any proposed building or grade changes within 10 feet of the electrical service or the cable route.
14. Notify RPU as far in advance as possible when any unusual loads are anticipated, such as special medical equipment, arc welders, elevators, or any other equipment that could affect RPU's system or any other customer.
15. Supply and install an RPU approved meter socket on outside wall.
16. Supply all secondary cable extending from the meter to the RPU designated point of interconnection (transformer or secondary pedestal).
17. Contact RPU two (2) business days in advance when a service is to be installed so that RPU can schedule the meeting to provide access to the power source and the contractor can install the service into the power source.
18. Pay all applicable RPU fees.

EXHIBIT 10

INSTALLATION GUIDELINES

Scheduling:

1. RPU will install underground electric facilities on a first come - first served basis. If for some reason the site is not ready for the installation on the scheduled date it will be rescheduled to the end of the queue.
2. New Commercial/Residential Subdivisions are typically installed as joint installations with other utilities. These installations are jointly scheduled by the utilities and our contractor once certain site conditions are met. If for some reason the site is not ready for installation of all facilities on the scheduled date the installation will be rescheduled to the end of the queue.

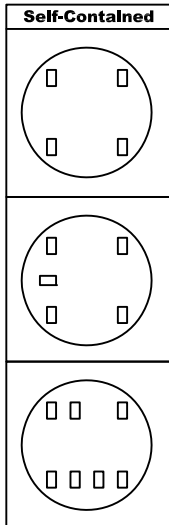
3. Installation in Unsuitable Backfill Material:

The customer shall be required to pay an additional fee if unsuitable backfill material is encountered during the installation of RPU's facilities. The fee will be based on the cubic feet of unsuitable backfill material encountered by RPU or our contractor during installation. RPU may require that the Customer pay an estimated fee prior to performing the work.

4. Winter Installations:

The customer shall be required to pay a per-foot additional fee for underground cable installation, at the customer's request, after frost has been established in the ground to an average depth of 6 inches or more. The amount of the frost fee depends on the depth of the frost. RPU may require that the estimated frost charges be paid in advance of performing work.

Installations scheduled on or after the onset of frost will be attempted at the discretion of RPU, based on ground conditions.



**4 TERMINAL
120-240 VOLT
SINGLE PHASE**

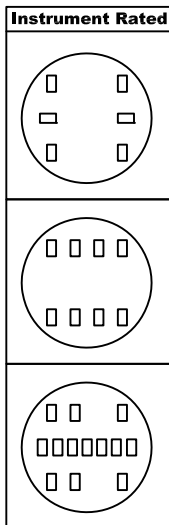
**5 TERMINAL
120-208 VOLT
SINGLE PHASE**

(Fifth Terminal needs to be located in the 9 O'Clock Position)

**7 TERMINAL
120-208, 277-480 VOLT
THREE PHASE, 4 WIRE
(Also 240 Volt, 4 Wire Delta)**

SELF CONTAINED METERING NOTES:

- 1. All self contained meter sockets must contain a lever bypass and will need to be purchased by the Customer or Electrician.**
- 2. The maximum service size for a self contained metering application is 400A (Class 320 meter socket).**



**6 TERMINAL
120-240 VOLT
SINGLE PHASE**

**8 TERMINAL
120-240 VOLT
THREE PHASE, 3 WIRE
(Legacy Supported Only - No new installations allowed)**

**13 TERMINAL
120-208, 240, 277-480 VOLT
THREE PHASE, 4 WIRE**

INSTRUMENT RATED METERING NOTES:

- 1. All instrument rated meter sockets will need to be purchased by the Customer or Electrician. RPU no longer sells meter sockets.**

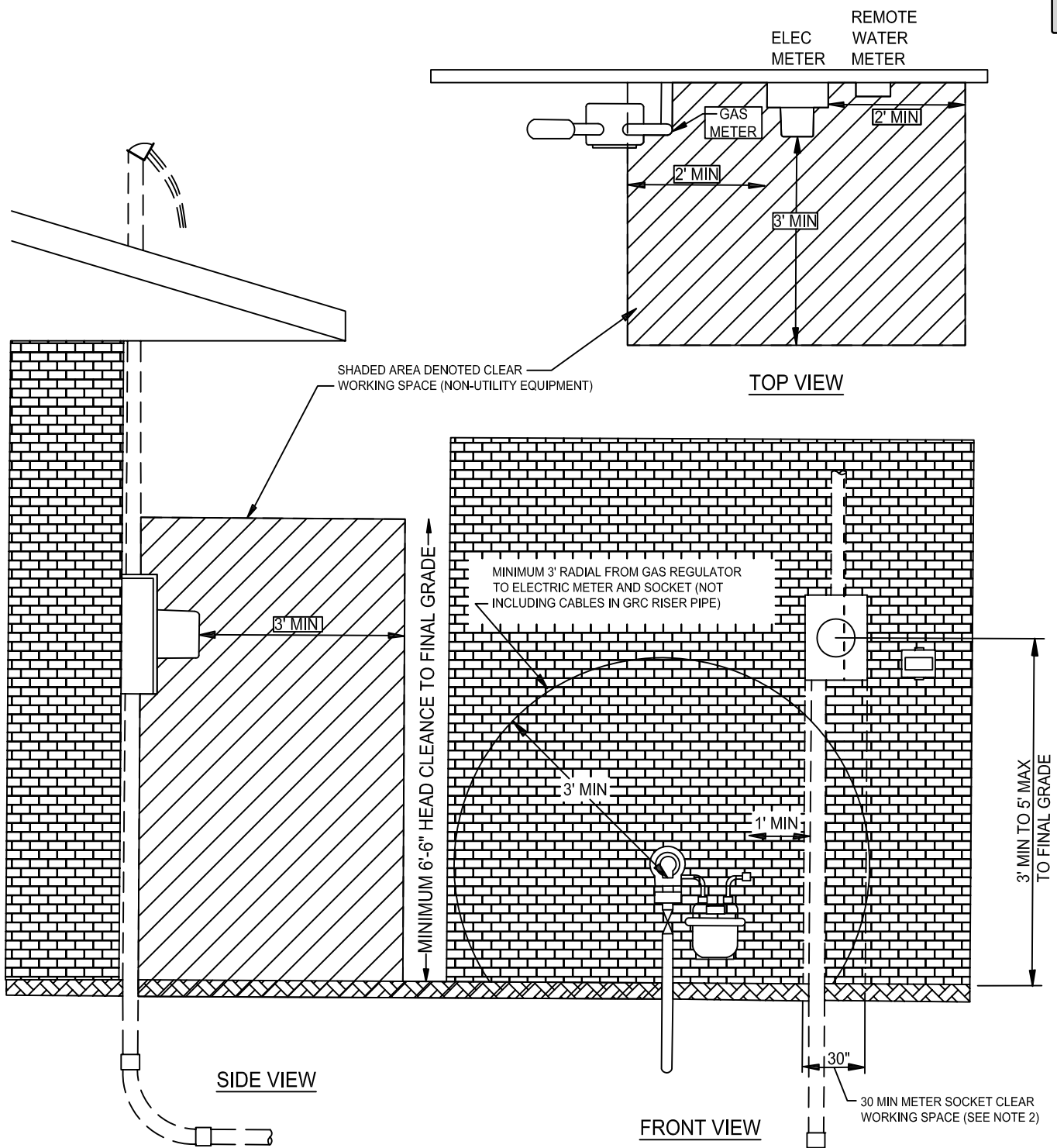
ROCHESTER PUBLIC UTILITIES

NO	REVISION	BY	DATE
0	ORIGINAL DRAWING	BJK	05/01/2017

METER SOCKET TYPES

EXHIBIT

Packet Pg. 130



NOTES:

1. A 30" wide clear working space (includes the meter socket) along with 3' of clear area in front of the meter is required for all non-utility owned equipment. This clear working space shall extend from the final grade up to the required 6'-6" headroom clearance. Obstructions that can hinder maintenance or reading of meters such as shrubs, stairways, window wells, or other debris are prohibited within this clear space.
2. Rochester Building Department requires all above ground gas piping materials to be installed outside of 30" meter socket working space (see drawing).
3. These clearances apply to both overhead and underground services.

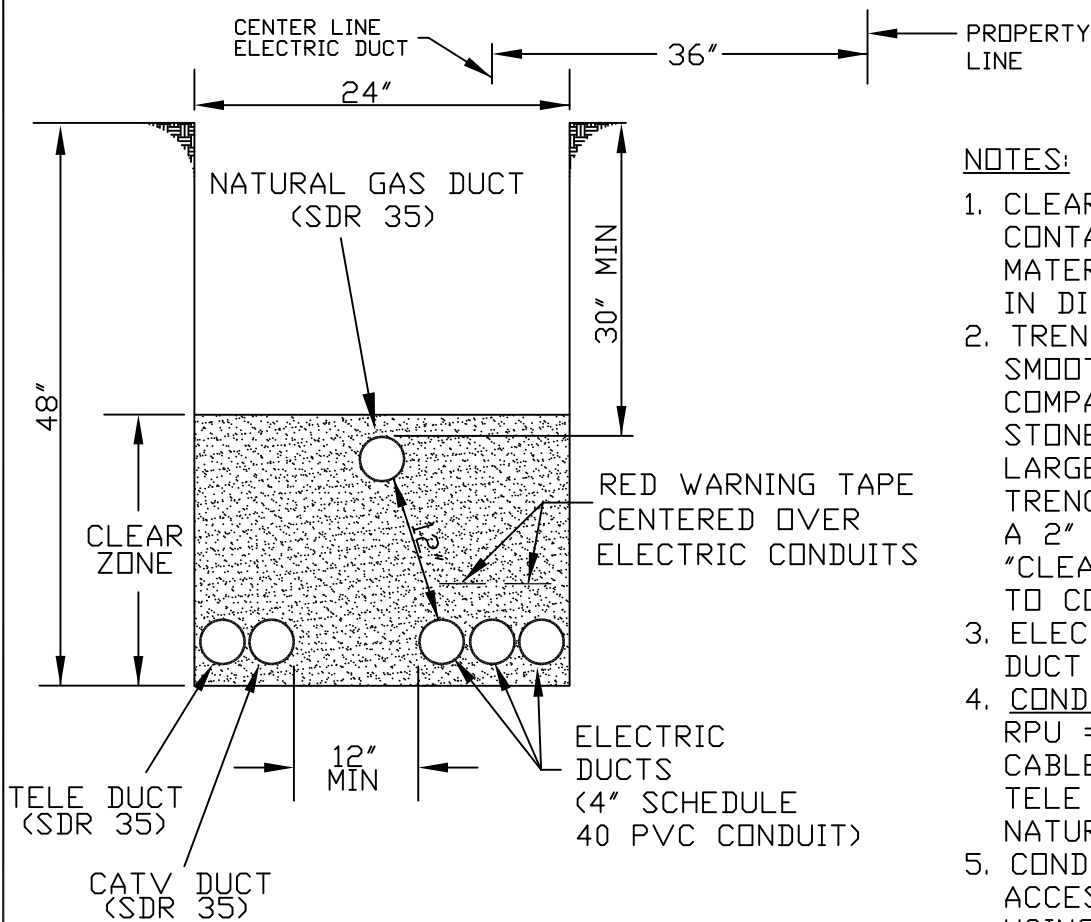
ROCHESTER PUBLIC UTILITIES

REQUIRED METER WORKING
AND SAFETY CLEARANCES

EXHIBIT

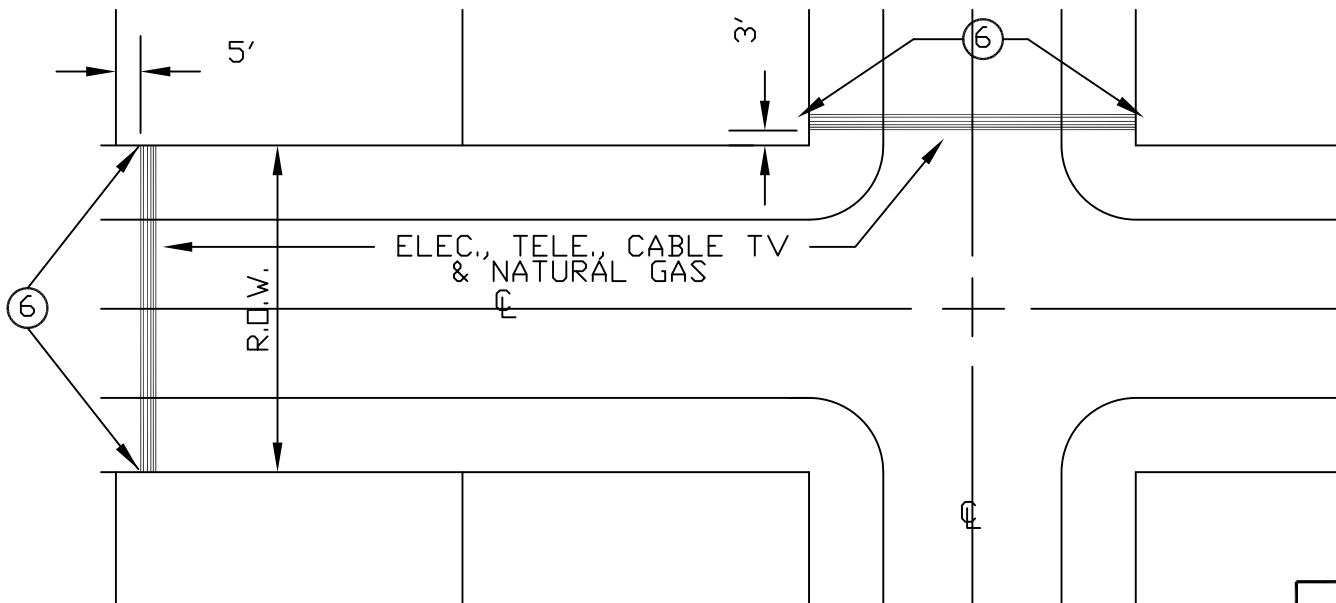
Packet Pg. 131

NO	REVISION	BY	DATE
0	ORIGINAL DRAWING	BJK	05/01/2017



NOTES:

1. CLEAR ZONE SHALL NOT CONTAIN BACKFILL GRANULAR MATERIAL LARGER THAN 1/4" IN DIAMETER.
2. TRENCH BED SHALL BE OF A SMOOTH, UNIFORM GRADE, COMPACTED, AND FREE OF STONES OR PROTRUSIONS LARGER THAN 1/4". UNSUITABLE TRENCH BEDS SHALL RECEIVE A 2" COMPACTED LAYER OF "CLEAR ZONE" BACKFILL PRIOR TO CONDUIT PLACEMENT.
3. ELECTRIC DUCT TO BE NEAREST DUCT TO PROPERTY LINE.
4. CONDUIT END CAP COLORS:
RPU = RED
CABLE TV = PINK
TELE = BLAZE ORANGE
NATURAL GAS = YELLOW
5. CONDUIT NEEDING SURFACE ACCESS SHALL BE DONE SO BY USING LONG SWEEP BENDS.
6. A 4"x4" WOODEN POST, EXTENDING ONE FOOT ABOVE GRADE, SHALL BE PLACED BY THE UTILITY CROSSING CONDUIT TO MARK THEIR LOCATION.



NOT TO SCALE

ROCHESTER PUBLIC UTILITIES

NO	REVISION	APPROVED BY	DATE
0	ORIGINAL DRAWING	GAW	8/89
1	CHANGED FROM SCH 40 TO SDR 35 DUCT	NJS	3/98
2	CHANGED YELLOW WARNING TAPE TO RED	KEH	2/03
3	CHANGED PLATE NUMBER	RLA	2/17/06
4	ADDED NOTES 5 & 6	BJK	5/01/17

INFORMATION – DUCT INSTALLATION
ROAD CROSSING

EXHIBIT

Packet Pg. 132

SECTION 1200

SUPPLEMENTAL INFORMATION

1201 USE OF SERVICE

1201.1 Purpose – Electric service may be used only for the purposes set forth in the respective rate schedules. RPU is in the business of providing retail electricity to the ultimate consumer. Electricity is supplied for use by customer's household or business, and outside sale of such service is not permitted. RPU permits redistribution and submetering where allowed by law, but a landlord may not charge the tenants more than the landlord is charged by RPU.

1201.2 Arrangement – The electric service equipment and associated building wiring of buildings must be arranged by the owner to facilitate individual metering of the electrical consumption of each building and occupancy unit. (Minnesota Statute Section 326B.106 Subd.12 requires separate metering on most residential units). If desired by the owner, RPU will install and maintain necessary individual RPU meters to measure consumption and tender bills on the applicable rate schedules to each customer and separately occupied buildings and occupancy units. Installation and maintenance of individual RPU meters by RPU shall not relieve the owner or landlord of responsibility for electrical service equipment and associated building wiring, nor shall it relieve the owner or landlord of responsibility to notify RPU of a single-metered residential building.

1201.3 Metering – Electric service in a single-metered residential building, as defined pursuant to Minn. Stat. 504B.215, shall be billed to the landlord/building owner except when a de minimis exception exists. A de minimis exception to the determination that a building is a single-metered residential building exists if electrical service used in a common area but measured by an individual tenant's meter does not exceed an aggregate 1,752 kilowatt hours per year. The landlord shall bear the burden and cost associated with proving an exception. (Minnesota Statute 504B.215 Subd. 2 requires the landlord of a single-metered residential building shall be the bill payer responsible, and shall be the customer of record contracting with the utility, and requires the landlord to advise the utility of the existence of a single-metered residential building). Except where a de minimis exception applies, a single metered residential building includes the following situations: "shared meter" in which a utility meter measures service provided to a tenant's dwelling and also measures such service to areas outside that dwelling; or "mixed wiring" in which electric outlets, fixtures or devices outside the individual unit are included on an individual meter; or "mixed plumbing" when related to electric utility service such as when an electric water heater

serves more than one individual unit. RPU shall respond to a tenant customer's request for a shared meter investigation within ten (10) business days. RPU's investigation shall consider whether a de minimis exception applies.

1201.4 De Minimis – The following may be representative de minimis exception examples:

- (1) Common area lighting fixtures up to two (2) 100-watt light bulbs operating 24 hours/day, seven days per week
- (2) Common area outlets without constant motor loads, such as an outlet in a hallway used for housekeeping
- (3) Common area garage door opener for non-commercial use.
- (4) Mixed wiring with another tenant unit
- (5) Laundry appliances accessible by multiple tenants
- (6) Common area lighting fixtures exceeding two (2) 100-watt light bulbs operating 24 hours/day, seven days per week usage

A landlord seeking to prove a de minimis exception shall do so by providing evidence establishing by actual measurement that the usage does not exceed 1,752 kilowatt hours per year. Where such actual measurement is not possible the landlord shall present written documentation from a licensed tradesperson or housing inspector that this usage is not likely to exceed 1,752 kilowatt hours per year. Such evidence must be presented prior to, during, or within 30 days of the conclusion of a shared meter investigation.

1201.5 Adjustments – Upon discovery of a single-metered residential building, as defined pursuant to Minnesota Statute Section 504B.215, whether shared metering, mixed wiring or mixed plumbing in which individual metered service had been established and billed, RPU shall, within thirty (30) business days, recognize and make adjustments to its records to reflect that the landlord/building owner is the bill payer responsible and customer of record. RPU shall make adjustments to the tenants and landlord/building owners account based on Minnesota State Statute and RPUs standard practices. Additionally, the tenant or landlord/building owner may seek additional adjustment of charges or challenge RPU's finding of a shared meter situation by filing a complaint with the Minnesota Public Utilities Commission, or by court action. Upon request, RPU will provide to the tenant available billing history in relation to such additional actions. The Minnesota Public Utilities Commission has determined that regardless of how or by whom an investigation is initiated leading to utility account adjustments, credits and/or refunds as herein described, the investigation and any resulting adjustments, credits and/or refunds shall implicate the protections of Minnesota Statute Sections 504B.285 Subds. 2 and 3, and 504B.441.

In the event the landlord/building owner denies access to the building or fails to cooperate with an investigation to determine whether a single-metered residential building exists, as defined pursuant to Minnesota Statute Section 504B.215, the building shall be presumed to be a single-metered residential building as defined pursuant to Minnesota Statute Section 504B.215, and the landlord/building owner shall be the bill payer responsible and customer of record. RPU shall make adjustments to the tenants and landlord/building owners account based on Minnesota State Statute and RPU's standard practices. Additionally, the tenant or landlord/building owner may seek additional adjustment of charges or challenge RPU's finding of a shared meter situation by filing a complaint with the Minnesota Public Utilities Commission, or by court action. The Minnesota Public Utilities Commission has determined that regardless of how or by whom an investigation is initiated leading to utility account adjustments, credits and/or refunds as herein described, the investigation and any resulting adjustments, credits and/or refunds shall implicate the protections of Minnesota Statute Sections 504B.285 subds.2 and 3, and 504B.441.

1201.6 Service Re-establishment – In order to reestablish individual metered service for the individual tenant units, the landlord/building owner shall be required to provide certification of a licensed electrician that the building has been inspected sufficiently to determine that all instances of mixed wiring, shared metering and mixed plumbing have been eliminated or that the building qualifies for a de minimis exception, as shown by actual measurement or by certification by a licensed tradesperson or housing inspector. Additionally, the building owner may be required by RPU to post a deposit equal to the expected charges for up to two months of usage for electric service to the building.

RPU shall have the right to verify the certification at the landlord/building owner's expense prior to establishing metered service for individual units. Such verification shall not relieve the landlord/building owner of its responsibility to be the bill payer and customer of record of a single-metered residential building as defined pursuant to Minnesota Statute Section 504B.215.

1201.7 MN PUC Petition – In the event of discovery of a single-metered residential service, as defined pursuant to Minnesota Statute Section 504B.215, after previous certification to reestablish individual metered service for tenants, in addition to the above adjustments, the building shall be ineligible for individual metered service for tenants without petition to the Minnesota Public Utilities Commission by the landlord/building owner and a showing by the building owner by clear and convincing evidence justifying the reestablishment of individual metered service for tenants. Additionally, the MPUC may require consent of the building's tenants in determining that reestablishment of the individual metered service for tenants is appropriate.

1201.8 Series Metering – RPU will not install, operate, maintain, or acquire any series metering system. RPU may, however, require series subtractive metering for its own purposes to measure consumption and render bills for electric energy not otherwise measured.

1201.9 Service Arrangement – Electricity is normally supplied to each separate customer through a single service and meter. RPU does not engage in the practice of doing interior wiring on customer's premises except for the installation and maintenance of its own property. The customer may combine the supply of electricity through one meter and one service to two or more buildings or occupancy units if they are located on the same or contiguous parcels of property and occupied by the same customer, solely for customer's own use. If separate buildings are occupied in whole or part by tenants of the customer, then each tenant occupied building, or area, or occupancy unit must be segregated from other loads of the customer and metered by RPU.

1201.10 Legacy Arrangement – If more than one building with tenants, or portions of more than one building with tenants, are served through one meter, this practice may continue until such time as material structural changes are made that will result in major modifications to the customer's service entrance equipment. If such modifications do occur, provisions must be made to allow for individual RPU metering of each tenant occupied building, or area, or occupancy unit. While the single meter service continues, the bill for the buildings will be computed as though each building used an equal portion of the total metered service and was separately billed.

1201.11 Customer Responsibility – All wiring and equipment on customer's side of the point of delivery, except metering equipment, will be furnished, installed, and maintained at the customer's expense in a manner approved by the public authorities having jurisdiction over the same. Customer will protect all electrical equipment and systems with devices that conform to the industry accepted standard for the various classes of electrical equipment and systems to prevent fire or damage to equipment from electrical disturbances or fault occurring in the customer's system or in the supplying system. The "industry accepted standard" will be as required in the National Electrical Code and such additional devices as are prescribed by any public authority with jurisdiction over the installation of electrical facilities.

1201.12 Inspections – Any inspection of a customer's wiring and equipment by RPU is for the purpose of avoiding unnecessary interruptions of service to its customers or damage to its property, and for no other purpose, and will not be construed to impose any liability upon RPU to a customer or any other person by reason thereof. In addition, RPU will not be liable or responsible

for any loss, injury, or damage that may result from the use of or defects in a customer's wiring or equipment.

RPU may, however, at any time require a customer to make such changes in customer's electrical or non-electrical property or use thereof as may be necessary to eliminate any hazardous condition or any adverse effect which the operation of the customer's property or equipment may have on said customer, other customers of RPU, the public, or RPU's employees, equipment or service. In lieu of changes by the customer, RPU may require reimbursement from the customer for the cost incurred by RPU in alleviating an adverse effect on RPU's facilities caused by the customer's property.

1201.13 Capacity – The transformers, service conductors, meters, and appurtenances used in furnishing electric service to a customer have a definite capacity. Therefore, no material increase in load or equipment will be made without first making arrangements with RPU for the additional electric supply.

1202 RATE SCHEDULE CLASSIFICATION

Electric service is supplied to customers under various rate schedule classifications as determined by the type of service, the amount of electric power supplied, and the purpose for which the electric service is to be used. Copies of RPU's rate schedules are available at RPU's Service Center and www.rpu.org.

1203 PAYMENT

1203.1 Meter Reading – RPU will, insofar as possible, read all meters every month and bill the customer for service used during the period. Payment of the bill is due by the date noted on the bill.

1203.2 Estimated Billing – If the meter cannot be read during a billing period, or the reading seems erroneous, an estimate will be made for that billing period. Adjustments to bills resulting from inaccuracies in the meters will be handled in the manner described in Section 608, Meter Testing.

1204 CUSTOMER CHARGE

There is a customer charge for each meter/service provided. The amount of this customer charge will vary based on the type and number of services provided (refer to RPU's rate schedule(s) for more information).

1205 NEW UNDERGROUND RESIDENTIAL SERVICE CONNECTION CHARGE

1205.1 Charges – RPU will charge an underground service connection charge (New Underground Service fee) for the extension and/or connection of new underground electrical service to any single-family home, townhome, condominium, duplex or triplex located in a R-1, R-1x, R-Sa, R-2, R-4 or Special District, zoning districts. The amount of the charge can be obtained from a Customer Service Representative.

1205.2 Service Connections – There will be no charge for connections or reconnections of existing services, in good payment standing, during RPU's normal working hours. If connection must be made outside of normal working hours at the request of the customer, a special connection charge will be assessed. The charge for such work can be obtained from a Customer Service Representative.

1206 SERVICE DISCONNECTION/RECONNECTION

1206.1 With Notice – RPU may disconnect a customer's service, with notice, for any of the following reasons:

- (1) Nonpayment of billings or issuance of non-negotiable check
- (2) Nonpayment of a deposit or other charges/fees
- (3) Failure to meet credit requirements
- (4) Failure to provide access to RPU owned metering equipment

1206.2 Without Notice – RPU may disconnect a customer's service, without notice, for any of the following reasons:

- (1) A condition determined to be hazardous – to the customer, to other customers, or to RPU personnel
- (2) Unauthorized use of electricity, water, or equipment belonging to RPU

1206.3 Reconnection Fee – In the event service has been disconnected for nonpayment, deposit, theft, or other credit cause, the customer will be required to pay a reconnection fee before the service is restored. In the event that the service is disconnected because of hazardous conditions on the customer owned equipment or unauthorized use, the customer will be required to have all required inspections performed prior to service being restored.

1206.4 Fee Schedule – A schedule of fees is available from an RPU Customer Service Representative.

1207 SERVICE DEPOSIT

RPU has established a credit policy whereby existing customers with an acceptable credit history and customers never having had service with RPU may not be required to provide a deposit as a condition of service. A new or additional deposit may be required in cases where a deposit has been refunded or where the current deposit amount is inadequate. The deposit amount is based on two times the average monthly bill and bears interest at the rate established by Minnesota Statute Section 325E.02. Further information is available in the RPU Deposit Policy.

1208 SECURITY LIGHTING

Security lighting is available under its own rate schedule classification for those customers requesting it.

EXHIBIT 1

MULTIPLIERS TO DETERMINE REQUIRED CAPACITOR KVARs FOR CORRECTING POWER FACTOR

Original Power Factor	Corrected Power Factor						
	90%	92%	94%	95%	96%	98%	100%
60%	0.849	0.907	0.97	1.005	1.042	1.13	1.333
62%	0.781	0.839	0.903	0.937	0.974	1.062	1.265
64%	0.716	0.775	0.838	0.872	0.909	0.998	1.201
66%	0.654	0.712	0.775	0.81	0.847	0.935	1.138
68%	0.594	0.652	0.715	0.75	0.787	0.875	1.078
70%	0.536	0.594	0.657	0.692	0.729	0.817	1.02
72%	0.48	0.538	0.601	0.635	0.672	0.761	0.964
74%	0.425	0.483	0.546	0.58	0.617	0.706	0.909
76%	0.371	0.429	0.492	0.526	0.563	0.652	0.855
78%	0.318	0.376	0.439	0.474	0.511	0.599	0.802
80%	0.266	0.324	0.387	0.421	0.458	0.547	0.75
82%	0.214	0.272	0.335	0.369	0.406	0.495	0.698
84%	0.162	0.22	0.283	0.317	0.354	0.443	0.646
86%	0.109	0.167	0.23	0.265	0.302	0.39	0.593
88%	0.055	0.114	0.177	0.211	0.248	0.337	0.54
90%	0	0.058	0.121	0.156	0.193	0.281	0.484
92%		0	0.063	0.097	0.134	0.223	0.426
94%			0	0.034	0.071	0.16	0.363
96%					0	0.089	0.292
98%						0	0.203
100%							0

INSTRUCTIONS:

1. Determine the average power factor that your system operates at during peak demand months. Call this your ORIGINAL POWER FACTOR.
2. In the row titled CORRECTED POWER FACTOR at the top of the page, find the power factor that you wish to correct your system to.
3. Read from left to right along the row corresponding to your ORIGINAL POWER FACTOR until you reach the column that shows your desired CORRECTED POWER FACTOR.
4. Read the number that you find at the intersection of the row and column. Multiply your KW Demand by this number to calculate the total amount of capacitor KVAR you need to install to your electric service.

EXHIBIT 1 - Continued

5. If your plant operates with a 3 phase electric service, divide the total KVAR by 3 to determine the amount of KVAR to connect per phase.

Example: If your plant has a 3 phase demand of 410 KW and operates at 76% power factor, but you want to correct to 95%:

- a) Find 95% in the CORRECTED POWER FACTOR row at the top of the page
- b) Find 76% in the ORIGINAL POWER FACTOR column along the left edge of the page. Read from left to right along this row until you reach the 95% column
- c) Read the number at the intersection of the row and column (0.526)
 $410 \text{ KW} \times 0.526 = 216 \text{ KVAR}$ needed to correct your system to 95% power factor
- d) $216 \div 3 = 72 \text{ KVAR}$ per phase



RESOLUTION

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, to adopt the 2017 Electric Service Rules and Regulations to become effective on June 1, 2017.

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 23rd day of May, 2017.

President

Secretary

FOR BOARD ACTION

Agenda Item # (ID # 7327)

Meeting Date: 5/23/2017

SUBJECT: Adoption of Minnesota Statute Chapter 453 Section 453.51 - 453.62 Municipal Electric Power

PREPARED BY: Wally Schlink

ITEM DESCRIPTION:

Legal Authority

Minnesota Statute Chapter 453 was enacted in 1976 to establish a means for municipal utilities to secure by individual or joint action a reliable supply of energy.

Specifically, sections 453.51 to 453.62 of the Minnesota statutes are intended to provide a means for those Minnesota cities which now or hereafter own and operate a utility pursuant to law for the local distribution of electric energy to secure, by individual or joint action among themselves, or by contract with other public or private entities within or outside the state an adequate, economical, and reliable supply of energy.

Per the Statute, it is determined that an adequate, economical, and reliable supply of electric energy is essential to the orderly growth and prosperity of these communities, and a shortage of such energy is inimical to the safety, health, morale, and welfare of the residents of the state and to the sound growth and developments of its communities.

Section 453.58 Subd. 1. states that a city may by resolution of its governing body exercise any of the powers granted in sections 453.51 to 453.62 to a municipal power agency, upon fulfillment of the conditions provided in sections 453.51 to 453.62 for the exercise of any such power, but without complying with the terms of section 453.53 hereof relating to incorporation, and notwithstanding any provision of any city charter or any other law denying, limiting, or placing conditions upon the exercise of any such power.

Background

FOR BOARD ACTION

Agenda Item # (ID # 7327)

Meeting Date: 5/23/2017

Over the past few years, the RPU Utility Board and Rochester City Council determined that the powers granted under the Municipal Electric Power statute was the preferable approach for the CapX transmission project, the Silver Lake Plant Unit 4 ERP relocation project, and the Westside Energy Station project, and those governing bodies executed a resolution adopting the use of these powers as required by the statute. Performing these projects under the powers granted by Chapter 453 has been an extremely effective, efficient and economical approach, and a significant contributor to their success.

The RPU Infrastructure Plan 2015 Update indicates a period which includes a very active schedule in the power supply area with major power projects scheduled for 2021 - 2030, which includes the addition of 587 megawatts of traditional and renewable energy and associated transmission, as well as the major transition from the SMMPA Power Sales Agreement. Possible participation as an energy supplier for Destination Medical Center's unique energy needs, as well as the potential for maximizing energy efficiency through a Combined Heat & Power project, district heating and cooling and conservation opportunities would also benefit from the powers granted by the Chapter 453 resolution.

These projects will include many attributes in common with the previous Chapter 453 projects, including the multiple partners from both the private and public sectors, the complexity of the scope of the project, and the various agreements that may have to be executed for project formation and execution.

Practical Impacts

The powers granted by approval of this resolution will have practical impacts on the ability of RPU to operate with the same advantages and benefits as a Joint Action Agency as we construct and maintain facilities or participate in projects. It will allow the City to operate with best practices for generation and transmission activities, which are competitive activities in the same arena with the co-operatives and investor owned utilities related to sale and purchase of energy and related activities. These powers are necessary to maintain the financial health of the utility and to sustain a competitive position in the modern energy marketplace.

Using the Westside Energy Station as an example, RPU currently participates in energy supply activities that include engines supplied from Finland, pre-engineering activities from a firm in Missouri, engineering activities from a firm in Illinois, construction performed by a group from Wisconsin, using materials provided from across the country. When completed, the energy will be dispatched using a partner located in Florida, into a market covering 14 states that is

FOR BOARD ACTION

Agenda Item # (ID # 7327)

Meeting Date: 5/23/2017

headquartered in Indiana under rules and regulations controlled by a federal commission located in Washington D.C. Clearly, municipal power supply activities reach far outside the limits of Rochester, Minnesota.

Section 453.54 Subd. 1 through Subd. 21 enumerate the practical activities that are covered by the powers granted by the statute.

What the Chapter 453 does not do, is infringe on the governance or the rights of the RPU Board and Rochester City Council or their authority or oversight of the projects or the utility activities that are established in the City Charter.

Summary

Chapter 453 Municipal Electric Power was intended, and is a valuable tool to provide the means for the City of Rochester, Minnesota through its Utility Board, to own and operate an adequate, economical and reliable supply of energy. The Minnesota legislature determined that the exercise of the powers granted by Chapter 453 will benefit the people of the state, and serve a valid public purpose in improving and otherwise promoting their health, welfare, and prosperity.

Based on staff's experience developing and managing projects under the statute, as well as long term observation of the benefits endowed on Joint Action Agencies developing and managing their facilities under the powers granted by the statute, staff strongly believes that extending these powers to the generation and transmission activities of RPU would be beneficial to the citizens of Rochester.

Staff has determined that using the powers that are granted under the Municipal Electric Power Statute 453.51 - 453.62 would be the most efficient, effective and financially beneficial governance, and recommends that the Board approve and recommend approval of the resolution to the City Council, and approve the powers granted by the statute through resolution.

Staff has attached the Infrastructure Plan matrix to demonstrate future project activity, as well as the Minnesota Statute Chapter 453, and will be present to respond to any questions or to provide additional information as requested.

FOR BOARD ACTION

Agenda Item # (ID # 7327)

Meeting Date: 5/23/2017

UTILITY BOARD ACTION REQUESTED:

Staff recommends that the RPU Board approve the Resolution adopting Minnesota Statute Chapter 453 Sections 453.51 to 453.62 for RPU generation and transmission activities, and recommends ratification by the Common Council.

UTILITY BOARD ACTION REQUESTED:

Path No.	1	2	3	4
Plan Year	Retire CC1 2023, Install Peaker 2023	Retire CC1 2018, Install Peaker 2019	Retire CC1 2018, Install Peaker 2018	Retire CC1 2018, Install Peaker 2018, Install CHP 2026
2016	Solar (500kW)	Solar (500kW)	Solar (500kW)	Solar (500kW)
2017				
2018		Retire CC1	Retire CC1 Peaker (50MW)	Retire CC1 Peaker (50MW)
2019		Peaker (50MW)		
2020				
2021	Solar (3MW)	Solar (3MW)	Solar (3MW)	Solar (3MW)
2022				
2023	Retire CC1 Peaker (50MW)			
2024				
2025				
2026				CHP (30MW)
2027				
2028	Solar (3MW)	Solar (3MW)	Solar (3MW)	Solar (3MW)
2029	CHP (30MW)	CHP (30MW)	CHP (30MW)	
2030				
2031	Wind (150MW) CCGT (390MW) Solar (11MW)	Wind (150MW) CCGT (390MW) Solar (11MW)	Wind (150MW) CCGT (390MW) Solar (11MW)	Wind (150MW) CCGT (390MW) Solar (11MW)
2032				
2033	Solar (500kW)	Solar (500kW)	Solar (500kW)	Solar (500kW)
2034				
2035	Solar (500kW)	Solar (500kW)	Solar (500kW)	Solar (500kW)
NPV Cost (\$000)	\$1,498,056	\$1,506,011	\$1,507,624	\$1,515,469
% Difference	0.00%	0.53%	0.64%	1.16%

1

MINNESOTA STATUTES 2014

453.20

CHAPTER 453

MUNICIPAL ELECTRIC POWER

453.51	INTENT.	453.57	RULES AND RATES.
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453.21 [Repealed, 1965 c 45 s 73]

453.22 [Repealed, 1965 c 45 s 73]

453.23 [Repealed, 1965 c 45 s 73]

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453.27 [Repealed, 1965 c 45 s 73]

453.28 [Repealed, 1965 c 45 s 73]

453.29 [Repealed, 1965 c 45 s 73]

453.30 [Repealed, 1965 c 45 s 73]

453.31 [Repealed, 1965 c 45 s 73]

453.51 INTENT.

Sections 453.51 to 453.62 are intended to provide a means for those Minnesota cities which now or hereafter own and operate a utility pursuant to law for the local distribution of electric energy to secure, by individual or joint action among themselves or by contract with other public or private entities within or outside the state, an adequate, economical, and reliable supply of energy. It is also the purpose of sections 453.51 to 453.62 to provide a means for Minnesota cities to construct and operate hydroelectric generating plants. To accomplish these purposes it is necessary for such cities to have power, by agreement between or among two or more of their number, to create a separate municipal corporation with the power and authority to finance and acquire facilities for the generation or transmission of electric energy, or interests in such facilities or rights to part of all of the capacity thereof. It is determined that an adequate, economical, and reliable supply of electric energy is essential to the orderly growth and prosperity of these communities, and a shortage of such energy is inimical to the safety, health, morale, and welfare of residents of the state and to the sound growth and developments of its communities. Such a shortage exists and is expected to continue or increase because of the difficulty, among others, in the operation of municipal generating plants, of achieving economies of size, limiting environmental impacts, and providing for peak loads. Accordingly it is determined that the exercise of the powers granted herein will benefit the people of the state and serve a valid public purpose in improving and otherwise promoting their health, welfare, and prosperity.

History: 1976 c 313 s 1; 1Sp1985 c 10 s 91

453.52 DEFINITIONS.

Subdivision 1. **Application.** The terms defined in this section have the following meanings whenever used in sections 453.51 to 453.62 unless the context requires otherwise.

Subd. 2. **Agency agreement.** "Agency agreement" means the written agreement between or among two or more cities or existing municipal power agencies establishing a municipal power agency.

Subd. 3. **City.** "City" means a city organized and existing under the laws of Minnesota or a city charter adopted pursuant thereto, and authorized by such laws or charter to engage in the local distribution and sale

of electric energy; provided that any city so engaged on January 1, 1976, is authorized to continue such distribution and sale, and every city now or hereafter so authorized may exercise, either individually or as a member of a municipal power agency, all of the powers granted in sections 453.51 to 453.62. "City" also includes a city organized and existing under the laws of another state or a city charter adopted pursuant thereto which participates in a municipal power agency with Minnesota cities and pays a full pro rata share of the expenses of the agency.

"City" also includes a park and recreation board in a city of the first class.

Subd. 4. **City council.** "City council" means the city council or other similar board, commission, or body within a city which is charged by law or its charter with the general control of the city's governmental affairs.

Subd. 5. **Distribution.** "Distribution" means the conveyance of electric energy to retail consumers from a transmission system, or from a generation facility situated within or in the immediate vicinity of a city.

Subd. 6. **Generation.** "Generation" means the production of electricity by any means and the acquisition of fuel of any kind for that purpose, and includes but is not limited to the acquisition of fuel deposits and the acquisition or construction and operation of facilities for extracting fuel from natural deposits, for converting it for use in another form, for burning it in place, and for transportation and storage.

Subd. 7. **Governing body.** (a) "Governing body," with respect to a city, means the city council or, if another board, commission, or body is empowered by law or its charter or by resolution of the city council to establish and regulate rates and charges for the distribution of electric energy within the city, such board, commission, or body shall be deemed to be the "governing body"; provided, however, that when the levy of a tax or the incurring of an obligation payable from taxes or any other action of such board, commission, or body requires the concurrence, approval, or independent action of the city council or another body under the city's charter or any other law, such action shall not be exercised under sections 453.51 to 453.62 until such concurrence or approval is received or such independent action is taken; and provided further, that the concurrence of the city council or other elected body charged with the general management of a city shall be required, prior to the adoption by the city of any resolution approving an agency agreement or any amendment thereto.

(b) With respect to an existing municipal power agency, "governing body" means the agency's board of directors.

Subd. 8. **Municipal power agency.** "Municipal power agency" means a separate political subdivision and municipal corporation created by agreement between or among two or more cities or existing municipal power agencies pursuant to section 453.53 to exercise any of the powers of acquisition, construction, reconstruction, operation, repair, extension, or improvement of electric generation or transmission facilities or the acquisition of any interest therein or any right to part or all of the capacity thereof.

Subd. 9. **Person.** "Person" means a natural person, a public agency, or a private corporation, firm, partnership, cooperative association, or business trust of any nature whatsoever, organized and existing under the laws of any state or of the United States or of any other country or political subdivision thereof and shall also include other countries and their political subdivisions, departments, agencies and instrumentalities.

Subd. 10. **Project.** "Project" means any plant, works, system, facilities, and real and personal property of any nature whatsoever, together with all parts thereof and appurtenances thereto, used or useful in the

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generation, production, transmission, purchase, sale, exchange, or interchange of electric energy or any interest therein or capacity thereof.

Subd. 11. **Public agency.** "Public agency" means any city or other municipal corporation, political subdivision, governmental unit, or public corporation created by or pursuant to the laws of this state or of another state or of the United States, and any state or the United States, and any person, board, or other body declared by the laws of any state or the United States to be a department, agency, or instrumentality thereof.

Subd. 12. **Real property.** "Real property" means lands, structures, franchises, and interests in land, including but not limited to lands under water, riparian rights, fees simple absolute, lesser interests such as easements, rights-of-way, uses, leases, licenses, and all other incorporeal hereditaments, legal and equitable estates, interests, and rights, terms of years, liens on real property by way of judgments, mortgages, or otherwise, and claims for damage to real property.

Subd. 13. **Transmission.** "Transmission" means the transfer of electric energy from a generating facility to, between, or among one or more cities or municipal power agencies or other persons with whom they may contract, and includes but is not limited to conversion of current and voltage and transfer of energy from another source in exchange for energy supplied by such contracting parties, but does not include distribution.

History: 1976 c 313 s 2; 1980 c 405 s 1; 1981 c 356 s 222; 1Sp1981 c 4 art 3 s 10; 1999 c 198 s 1; 2009 c 19 s 1-3

453.53 MUNICIPAL POWER AGENCIES; INCORPORATION.

Subdivision 1. **Two or more cities or existing municipal power agencies; resolution.** (a) Any two or more cities or existing municipal power agencies may form a municipal power agency by the execution of an agency agreement authorized by a resolution of the governing body of each city or municipal power agency.

(b) The agency agreement shall state:

(1) that the municipal power agency is created and incorporated under the provisions of sections 453.51 to 453.62 as a municipal corporation and a political subdivision of the state, to exercise thereunder a part of the sovereign powers of the state;

(2) the name of the agency, which shall include the words "municipal power agency";

(3) the names of the cities or municipal power agencies which have approved the agency agreement and are the initial members of the municipal power agency;

(4) the names and addresses of the persons initially appointed by the resolutions approving the agreement to act as the representatives of the members, respectively, in the exercise of their powers as members;

(5) limitations, if any, upon the terms of representatives of the respective members, provided that such representatives shall always be selected and vacancies in their offices declared and filled by resolutions of the governing bodies of the respective members;

(6) the names of the initial board of directors of the municipal power agency, who shall be not less than five persons who are representatives of the respective members, selected by the vote of a majority of such representatives; or the agreement may provide that the representatives of the members from time to time shall be and constitute the board of directors;

(7) the location by city, town, or other community in the state, of the registered office of the municipal power agency;

(8) that the cities or municipal power agencies which are members of the municipal power agency are not liable for its obligations; and

(9) any other provision for regulating the business of the municipal power agency or the conduct of its affairs which may be agreed by the members, consistent with sections 453.51 to 453.62.

Subd. 2. **Filing agreement, resolution; incorporation certificate.** The agency agreement and a certified copy of the resolution of the governing body of each member shall be filed for record with the secretary of state. Upon the filing of the agency agreement and a certified copy of the resolution of the governing body of each member, the existence of the municipal power agency as a political subdivision of the state and a municipal corporation shall begin.

Subd. 3. **First board.** The initial board of directors of the municipal power agency, unless otherwise provided by the agency agreement, shall be elected prior to the filing of the agreement by a majority vote of the persons acting as representatives of the members, from among their members. After commencement of existence, the first meeting of the board of directors shall be held at the call of the directors, after notice, for the purpose of adopting the initial bylaws, electing officers, and for any other business that comes before the meeting.

Subd. 4. **Bylaws.** (a) The bylaws of the municipal power agency, and any amendments thereto, shall be proposed by the board of directors and shall be adopted by a majority vote of the representatives of the members, unless the agency agreement requires a greater vote, at a meeting held after notice.

(b) Subject to the provisions of the agency agreement, the bylaws shall state:

(1) the qualifications of members, and limitations, if any, upon their number;

(2) conditions of membership, if any;

(3) manner and time of calling regular meetings of representatives of members;

(4) manner and conditions of termination of membership; and

(5) such other provisions for regulating the affairs of the municipal power agency as the representatives of the members shall determine to be necessary.

Subd. 5. **Minnesota registered office.** Every municipal power agency shall maintain an office in this state to be known as its registered office. When a municipal power agency desires to change the location of its registered office, it shall file with the secretary of state a certificate of change of location of registered office, stating the new location by city, town, or other community and effective date of change. When the certificate of change of location has been duly filed, the board of directors may make the change without any further action.

Subd. 6. **Directors.** Each of the directors shall hold office for the term for which selected and until a successor has been selected and has qualified. Directors shall discharge their duties in good faith, and with that diligence and care which an ordinary prudent person in a like position would exercise under similar circumstances. The agency agreement or the bylaws may prescribe the number, term of office, powers,

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authority, and duties of directors, the time and place of their meetings, and other regulations concerning directors. Except where the agency agreement or bylaws prescribe otherwise, the term of office of a director shall be for one year. Except where the agency agreement or bylaws prescribe otherwise, a meeting of the board of directors may be held at any place, within or without the state, designated by the board, after notice, and an act of the majority of the directors present at a meeting at which a quorum is present is the act of the board. Except where the agency agreement or bylaws prescribe otherwise, any vacancy occurring on the board shall be filled by a person nominated by the remaining members of the board and elected by a majority of representatives of the member cities.

Subd. 7. **Officers.** Except where the agency agreement or bylaws prescribe otherwise, the board of directors shall appoint a president from its membership, and a secretary and treasurer, and any other officers or agents deemed to be necessary, who may but need not be city representatives or directors. An officer may be removed with or without cause by the board of directors. Officers of the municipal power agency shall have the authority and duties in the management of the business of the municipal power agency that the agency agreement or bylaws prescribe, or, in the absence of such prescription, as the board of directors determines.

Subd. 8. **Member representatives.** Except as otherwise provided in the agency agreement or the bylaws, the duly authorized representatives of each member shall act as, and vote on behalf of, such member. Except where the agency agreement or bylaws provide otherwise, representatives of the members shall hold at least one meeting each year for the election of directors and for the transaction of any other business. Except where the agency agreement or bylaws prescribe otherwise, special meetings of the representatives may be called for any purpose upon written request to the president or secretary to call the meeting. Such officer shall give notice of the meeting to be held between 10 and 60 days after receipt of such request. Unless the agency agreement or bylaws provide for a different percentage, a quorum for a meeting of the representatives of the members is a majority of the total members and a quorum for meetings of the board of directors is a majority of the membership of such board.

Subd. 9. **Amendments to agency agreement.** The agency agreement may be amended as proposed at any meeting of the representatives of the members for which notice, stating the purpose, shall be given to each representative and, unless the agency agreement or bylaws require otherwise, shall become effective when ratified by resolutions of a majority of the governing bodies of the members. Each amendment and the resolutions approving it shall be filed for record with the secretary of state.

Subd. 10. **City appropriations.** Each member city shall have full power and authority, within budgetary limits applicable to it, to appropriate money for the payment of expenses of the formation of the municipal power agency and of its representative in exercising its functions as a member of the agency.

History: 1976 c 313 s 3; 1986 c 444; 1987 c 384 art 1 s 38; 2009 c 19 s 4-9; 2011 c 106 s 25

453.54 MUNICIPAL POWER AGENCIES; POWERS.

Subdivision 1. **Listed here; essential; sovereign.** A municipal power agency shall have all of the powers enumerated in this section, in furtherance of the purpose stated in section 453.51, and in the exercise thereof shall be deemed to be performing an essential governmental function and exercising a part of the sovereign powers of the state of Minnesota. All powers of the municipal power agency shall be exercised by its board of directors, unless otherwise provided by the agency agreement or bylaws.

Subd. 2. **Projects.** It may plan, acquire, construct, reconstruct, operate, maintain, repair, extend, or improve one or more projects within or outside the state; or acquire any interest in or any right to capacity

of a project and may act as agent, or designate one or more of the other persons participating in a project to act as its agent, in connection with the planning, acquisition, construction, reconstruction, operation, maintenance, repair, extension, or improvement of the project.

Subd. 3. **Investigate sources, supplies; feasibility, costs.** It may investigate the desirability of and necessity for additional sources and supplies of electric energy, and make studies, surveys, and estimates as may be necessary to determine the feasibility and cost thereof.

Subd. 4. **Cooperation.** It may cooperate with other persons in the development of sources and supplies of electric energy.

Subd. 5. **Apply for project approvals.** It may apply to any public agency for consents, authorizations, or approvals required for any project within its powers and take all actions necessary to comply with the conditions thereof.

Subd. 6. **Authorized acts.** It may perform any act authorized by sections 453.51 to 453.62 through or by means of its officers, agents, or employees or by contract with any person.

Subd. 7. **Money.** It may acquire, hold, use, and dispose of income, revenues, funds, and money.

Subd. 7a. **Investments in technology.** It may invest in various technologies to minimize long-run costs of providing electrical services to consumers. These investments include energy conservation measures and renewable resources.

Subd. 8. **Personal property.** It may acquire, own, hire, use, operate, and dispose of personal property.

Subd. 9. **Real property.** It may acquire, own, use, lease as lessor or lessee, operate, and dispose of real property and interests in real property, and make improvements thereon.

Subd. 10. **Grant, charge for use.** It may grant the use by franchise, lease, or otherwise, and make charges for the use of any property or facility owned or controlled by it.

Subd. 11. **Debt.** It may borrow money and issue negotiable bonds or notes, secured or unsecured, in accordance with section 453.55.

Subd. 12. **Investments.** Subject to any agreement with bondholders or note holders, it may invest money of the municipal power agency not required for immediate use, including proceeds from the sale of any bonds or notes, in such obligations, securities, and other investments as the municipal power agency shall deem prudent, notwithstanding the provisions of any other law relating to the investment of public funds.

Subd. 13. **Eminent domain.** It may exercise the power of eminent domain in accordance with section 453.56.

Subd. 14. **Location, character of projects.** It may determine the location and character of, and all other matters in connection with, any and all projects it is authorized to acquire, hold, establish, effectuate, operate, or control.

Subd. 15. **Contracts for projects, energy sale or transmission.** It may contract with any person, within or outside the state, for the construction of any project or for the sale, with or without advertising for bids, or transmission of electric energy generated by any project, or for any interest therein or any right to capacity thereof, on such terms and for such period of time as its board of directors determines.

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Subd. 16. **Buy, sell, exchange, transmit electricity.** It may purchase, sell, exchange, or transmit electric energy within and outside the state in such amounts as it shall determine to be necessary and appropriate to make the most effective use of its powers and to meet its responsibilities, and may enter into agreements with any person with respect to that purchase, sale, exchange, or transmission, on such terms and for such period of time as its board of directors determines.

Subd. 17. **Insurance.** It may procure insurance against any losses in connection with its property, operations, or assets in such amounts and from such insurers as it deems desirable.

Subd. 18. **Gift, grants, loans, aid.** It may contract for and accept any gifts or grants or loans of funds or property or financial or other aid in any form from any public agency or other person, and may comply, subject to the provisions of sections 453.51 to 453.62, with the terms and conditions thereof.

Subd. 19. **Give security.** It may mortgage, pledge, and grant a security interest in any or all of its real and personal property to secure the payment of its bonds, notes, or other obligations or contracts.

Subd. 20. **Pay as much as private taxes.** It shall pay to each taxing authority within whose taxing jurisdiction its property is situated, in lieu of taxes on its property, the amounts of the taxes which would be payable if its property were owned by a private person. For this purpose the property of a municipal power agency shall be valued in the same manner and by the same procedure as the property of private persons.

Subd. 21. **All other powers.** It may exercise all other powers not inconsistent with the Constitution of the state of Minnesota or the United States Constitution, which powers may be reasonably necessary or appropriate for or incidental to the effectuation of its authorized purposes or to the exercise of any of the powers enumerated in this section, and generally may exercise in connection with its property and affairs, and in connection with property within its control, any and all powers which might be exercised by a natural person or a private corporation in connection with similar property and affairs.

History: 1976 c 313 s 4; 1983 c 301 s 202; 1Sp1985 c 10 s 92

453.55 BONDS AND NOTES FOR ANY CORPORATE PURPOSE.

Subdivision 1. **In necessary amounts.** A municipal power agency may from time to time issue its bonds or notes in such principal amounts as the municipal power agency shall deem necessary to provide sufficient funds to carry out any of its corporate purposes and powers, including but not limited to the acquisition or construction of any project to be owned or leased, as lessor or lessee, by the municipal power agency, or the acquisition of any interest therein or any right to capacity thereof, the funding or refunding of the principal of, or interest or redemption premiums on, any bonds or notes issued by it whether or not such bonds or notes or interest to be funded or refunded have or have not become due, the establishment or increase of reserves to secure or to pay such bonds or notes or interest thereon, and the payment of all other costs or expenses of the municipal power agency incident to and necessary or convenient to carry out its corporate purposes and powers.

Subd. 2. **How payable; pledge.** Except as may be otherwise expressly provided by sections 453.51 to 453.62 or by the municipal power agency, every issue of bonds or notes of the agency shall be payable out of any revenues or funds of the agency, subject only to any agreements with the holders of particular bonds or notes pledging any particular revenues or funds. A municipal power agency may issue such types of bonds or notes as it may determine, including bonds or notes as to which the principal and interest are payable exclusively from the revenues from one or more projects, or from an interest therein or a right to

capacity thereof, or from one or more revenue producing contracts made by the municipal power agency with any person, or from its revenues generally. Any such bonds or notes may be additionally secured by a pledge of any grant, subsidy, or contribution from any public agency or other person, or a pledge of any income or revenues, funds, or moneys of the municipal power agency from any source whatsoever.

Subd. 3. **Negotiable.** All bonds and notes of a municipal power agency shall be negotiable within the meaning and for all the purposes of the Uniform Commercial Code, subject only to any registration requirement.

Subd. 4. **Formalities.** Bonds or notes of a municipal power agency shall be authorized by resolution of its board of directors and may be issued under such resolution or under a trust indenture or other security agreement, in one or more series, and shall bear such date or dates, mature at such time or times, bear interest at such rate or rates, be in such denominations, be in such form, either coupon or registered, carry such conversion, registration, and exchange privileges, have such rank or priority, be executed in such manner, be payable in such medium of payment at such place or places within or outside the state, be subject to such terms of redemption with or without premium, and contain or be subject to such other terms as the resolution, trust indenture, or other security agreement may provide, and shall not be restricted by the provisions of any other law limiting the amounts, maturities, interest rates, or other terms of obligations of public agencies or private persons.

Subd. 5. **Issued, delivered.** Any bonds or notes may be issued and delivered, notwithstanding that one or more of the officers executing them shall have ceased to hold office at the time when the bonds or notes are actually delivered.

Subd. 6. **Temporary bonds.** Pending preparation of definitive bonds, a municipal power agency may issue temporary bonds which shall be exchanged for the definitive bonds.

Subd. 7. **Public or private sale, price.** Bonds or notes of a municipal power agency may be sold at public or private sale for such price or prices and in such manner as the agency determines.

Subd. 8. **Without state consent, other event.** Bonds or notes of a municipal power agency may be issued under the provisions of sections 453.51 to 453.62, and rents, rates, and charges may be established pursuant to section 453.57 and pledged for the security of bonds or notes and interest and redemption premiums thereon, without obtaining the consent of any department, division, commission, board, bureau, or agency of the state of Minnesota and without any other proceeding or the happening of any other condition or occurrence except as specifically required by sections 453.51 to 453.62.

Subd. 9. **Contract with holders; terms.** The resolution, trust indenture, or other security agreement under which any bonds or notes are issued shall constitute a contract with the holders of the bonds or notes, and may contain provisions, among others, prescribing:

- (1) the terms and provisions of the bonds or notes;
- (2) the mortgage or pledge of and the grant of a security interest in any real or personal property and all or any part of the revenue from any project or any revenue producing contract made by the municipal power agency with any person to secure the payment of bonds or notes, subject to any agreements with the holders of bonds or notes which might then exist;
- (3) the custody, collection, securing, investment, and payment of any revenues, assets, money, funds, or property with respect to which the municipal power agency may have any rights or interest;

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(4) the rates or charges for electric energy sold by, or services rendered by, the municipal energy agency, the amount to be raised by the rates or charges, and the use and disposition of any or all revenue;

(5) the creation of reserves or sinking funds and the regulation and disposition thereof;

(6) the purposes to which the proceeds from the sale of any bonds or notes then or thereafter to be issued may be applied, and the pledge of the proceeds to secure the payment of the bonds or notes;

(7) limitations on the issuance of any additional bonds or notes, the terms upon which additional bonds or notes may be issued and secured, and the refunding of outstanding bonds or notes;

(8) the rank or priority of any bonds or notes with respect to any lien or security;

(9) the creation of special funds or moneys to be held in trust or otherwise for operating expenses, payment, or redemption of bonds or notes, reserves or other purposes, and the use and disposition of moneys held in these funds;

(10) the procedure by which the terms of any contract with or for the benefit of the holders of bonds or notes may be amended or abrogated, the amount of bonds or notes the holders of which must consent thereto, and the manner in which consent may be given;

(11) the definition of the acts or omissions to act which shall constitute a default in the duties of the municipal power agency to holders of its bonds or notes, and the rights and remedies of the holders in the event of default including, if the municipal power agency so determines, the right to accelerate the due date of the bonds or notes or the right to appoint a receiver or receivers of the property or revenues subject to the lien of the resolution, trust indenture, or other security agreement;

(12) any other or additional agreements with or for the benefit of the holders of bonds or notes or any covenants or restrictions necessary or desirable to safeguard the interests of the holders;

(13) the custody of any of its properties or investments, the safekeeping thereof, the insurance to be carried thereon, and the use and disposition of insurance proceeds;

(14) the vesting in a trustee or trustees, within or outside the state, of such properties, rights, powers, and duties in trust as the municipal power agency may determine; or the limiting or abrogating of the rights of the holders of any bonds or notes to appoint a trustee, or the limiting of the rights, powers, and duties of such trustee; or

(15) the appointment of and the establishment of the duties and obligations of any paying agent or other fiduciary within or outside the state.

Subd. 10. **Security; UCC filings.** For the security of bonds or notes issued or to be issued by a municipal power agency, the municipal power agency may mortgage or execute deeds of trust of the whole or any part of its property and franchises in the same manner and with the same effect as provided for public service corporations in section 301B.04. Any mortgage or deed of trust covering the whole or any part of easements or other interests in real estate less than fee simple used in the generation or transmission of electric power, and covering fixtures annexed thereto, may be filed in the office of the secretary of state with or as a part of the financing statement covering the fixtures, with the same force and effect as provided in the case of public utilities under the provisions of section 507.327. All filings required under the Uniform Commercial Code to perfect a security interest against the personal property or fixtures of a municipal power agency shall be

made and maintained in the Office of the Secretary of State, with the same force and effect as provided in the case of a debtor public utility under the provisions of sections 336B.01 to 336B.03.

Subd. 11. **Liability; indemnification.** Neither the officials, the directors, nor the members of a municipal power agency nor any person executing bonds or notes shall be liable personally on the bonds or notes or be subject to any personal liability or accountability by reason of the issuance thereof. A municipal power agency shall have power to indemnify and to purchase and maintain insurance on behalf of any director, officer, employee, or agent of the municipal power agency, in connection with any threatened, pending, or completed action, suit, or proceeding, to the same extent and in the same manner and with the same force and effect as provided in the case of a private corporation under the provisions of section 302A.521.

Subd. 12. **Deal bonds and notes.** A municipal power agency shall have power to purchase, out of any funds available therefor, bonds or notes, and to hold, pledge, cancel, or resell the bonds or notes, subject to and in accordance with any agreements with the holders.

Subd. 13. **Payable solely from pledged or available revenue.** The principal of and interest upon any bonds or notes issued by a municipal power agency shall be payable solely from the revenues or funds pledged or available for their payment as authorized in sections 453.51 to 453.62. Each bond and note shall contain a statement that the principal thereof or interest thereon is payable solely from revenues or funds of the municipal power agency and that neither the state nor any political subdivision thereof, other than the municipal power agency, nor any member of the municipal power agency is obligated to pay the principal or interest and that neither the faith and credit nor the taxing power of the state or any political subdivision thereof or of any member city is pledged to the payment of the principal of or the interest on the bonds or notes. Nothing herein, however, precludes the use of tax or other revenue by a city for payment of amounts due and performance of covenants under any contract of the city as provided in section 453.58, subdivision 3.

History: 1976 c 313 s 5; 1985 c 56 s 1; 1985 c 248 s 59; 2005 c 69 art 1 s 21; art 3 s 25; 2009 c 19 s 10

453.56 EMINENT DOMAIN.

Except as otherwise provided by this section, a municipal power agency may acquire all real or personal property that it deems necessary for carrying out the purposes of sections 453.51 to 453.62, whether in fee simple absolute or a lesser interest, by condemnation and the exercise of the power of eminent domain in accordance with chapter 117. A municipal power agency shall have no power of eminent domain with respect to any real or personal property owned by any person as part of a system, whether existing, under construction, or being planned, of facilities for the generation, transmission, or distribution of electric power. The authority of a municipal power agency to acquire real or personal property by condemnation or the exercise of the power of eminent domain shall be a continuing power, and no exercise thereof shall exhaust it.

History: 1976 c 313 s 6

453.57 RULES AND RATES.

A municipal power agency may make and enforce bylaws or rules which it deems necessary or desirable, and may establish, levy, and collect or may authorize, by contract, franchise, lease, or otherwise, the establishment, levying, and collection of, rents, rates, and other charges for the services afforded by the municipal power agency or by or in connection with any project or properties which it may construct, erect, acquire, own, operate, or control, or with respect to which it may have any interest or any right to capacity thereof, and for the sale of electric energy or of generation or transmission capacity or service as it may deem necessary,

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proper, desirable, and reasonable. Rents, rates, and other charges shall be at least sufficient to meet the expenses thereof, including reasonable reserves, interest, and principal payments, including payments into one or more sinking funds for the retirement of principal. A municipal power agency may pledge its rates, rents, and other revenues, or any part thereof, as security for the repayment, with interest and redemption premiums, if any, of any moneys borrowed by it or advanced to it for any of its authorized purposes and as security for the payment of amounts due and owing by it under any contract.

History: 1976 c 313 s 7

453.58 CITY POWERS.

Subdivision 1. **By resolution; no incorporation.** A city may by resolution of its governing body exercise any of the powers granted in sections 453.51 to 453.62 to a municipal power agency, upon fulfillment of the conditions provided in sections 453.51 to 453.62 for the exercise of any such power, but without complying with the terms of section 453.53 hereof relating to incorporation, and notwithstanding any provision of any city charter or any other law denying, limiting, or placing conditions upon the exercise of any such power. Nothing in this section shall be construed to repeal any charter provision or law requiring an election or other condition precedent to the establishment after January 1, 1976, of a city electric energy distribution system.

Subd. 2. **Publication.** Every resolution adopted in accordance with subdivision 1 shall be published in the official newspaper of the city. No action may be brought and no defense may be interposed in an action brought more than 30 days after publication of the resolution, placing at issue the validity of any provision of the resolution or the power of the city to make any contract or to issue any bond, note, or other obligation authorized thereby.

Subd. 3. **Bonds require other law.** Nothing in sections 453.51 to 453.62 authorizes any city to issue general obligation bonds for any purpose specified in sections 453.51 to 453.62, without approval of its electors or performance of such other procedural conditions as may be required by its charter or the laws of this state. A city may, however, by resolution of its governing body and without approval of the electors or performance of other conditions provided in any charter or other law, enter into contracts with a municipal power agency for the purchase, sale, exchange, or transmission of electric energy and other services, on such terms and for such period of time as the resolution may provide. A city may appropriate and use tax and other revenues received in any year to make payments due or to comply with covenants to be performed during that year under any contract made by the city when acting as a municipal power agency, or any contract made by the city with a municipal power agency, as contemplated by sections 453.51 to 453.62, subject to the provisions of its charter and the laws of this state regarding budget and payment procedures and annual tax levy limitations.

Subd. 4. **No taxation of property; intent.** (a) Notwithstanding anything in sections 453.51 to 453.62 to the contrary, a city, by the exercise of any or all of the powers granted in sections 453.51 to 453.62, is not subject to any duty under section 453.54, subdivision 20, to pay amounts in lieu of taxes on any of its property. The sale or distribution of electric energy to private persons shall not cause a project to be treated as not used exclusively for a public purpose.

(b) This subdivision is adopted to clarify the powers intended to be granted to cities under this section, and the consequences thereof, is remedial in character, and applies to all property heretofore or hereafter acquired through the exercise of any of the powers of sections 453.51 to 453.62.

History: 1976 c 313 s 8; 1Sp1985 c 10 s 93

453.59 CONSTRUCTION CONTRACTS.

A city or municipal power agency may contract for the planning, acquisition, construction, reconstruction, operation, maintenance, repair, extension, and improvement of generation and transmission facilities outside of its corporate limits or those of its members, or may contract with other public or private owners of these facilities to perform these functions, without advertising for bids, preparing final plans and specifications in advance of construction, or securing performance and payment bonds, except to the extent that its governing body determines that these actions are desirable in furtherance of the purposes of sections 453.51 to 453.62. Except as otherwise provided by this section, no contract shall be invalid or unenforceable by reason of nonperformance of the conditions required by any other law relating to public contracts. If a payment bond is secured as provided in section 574.26, it shall be enforceable as provided in sections 574.28 to 574.31, and no lien may be filed under chapter 514 for the furnishing of labor, skill, material, or machinery for the improvement covered thereby.

History: 1976 c 313 s 9

453.60 AUTHORIZED INVESTMENTS; SECURITY FOR PUBLIC DEPOSITS.

Notwithstanding any other law to the contrary, the state of Minnesota and all its public officers, governmental units, agencies and instrumentalities, all banks, trust companies, savings banks and institutions, savings associations, investment companies, and other persons carrying on a banking business, all insurance companies, insurance associations and other persons carrying on an insurance business, and all executors, administrators, guardians, trustees and other fiduciaries, may legally invest any sinking funds, money, or other funds belonging to them or within their control in any bonds or notes issued pursuant to sections 453.51 to 453.62, and the bonds or notes shall be authorized security for any and all public deposits.

History: 1976 c 313 s 10; 1995 c 202 art 1 s 25

453.61 EMPLOYEES, DEFINITION.

Employees of a municipal power agency shall be "public employees" within the meaning of section 353.01, and the provisions of chapter 353 shall apply to employees of a municipal power agency.

History: 1976 c 313 s 11

453.62 CONSTRUCTION.

Subdivision 1. **Liberal, broadly.** Sections 453.51 to 453.62 shall be construed liberally to effectuate its legislative intent and purpose, as complete and independent authority for the performance of each and every act and thing authorized by sections 453.51 to 453.62, and all authority granted shall be broadly interpreted to effectuate this intent and purpose and not as a limitation of powers.

Subd. 2. **This chapter prevails.** In the event of any conflict or inconsistency between sections 453.51 to 453.62 and any other law or charter provision, the provisions of sections 453.51 to 453.62 shall prevail.

History: 1976 c 313 s 12



RESOLUTION

WHEREAS, the City of Rochester through its municipal utility, Rochester Public Utilities, is responsible for and wishes to participate in generation and transmission projects; and

WHEREAS, Rochester Public Utilities consists of various activities ultimately used to provide capacity and energy through construction or participation of a generation facility; and,

WHEREAS, the Rochester Public Utilities generation and transmission activities are intricate, complex, and unique requiring multiple project participants within and without the State of Minnesota and requiring the planning, acquisition and construction of a generation facility which includes design, engineering, procurement, construction, project management and erection of equipment, systems and all appurtenances; and,

WHEREAS, Minn. Stat. §453.58, subd. 1, authorizes the City to exercise any of the powers granted to a municipal power agency in Minn. Stat. §§453.51 - 453.62 notwithstanding any provision of any city charter or any other law denying, limiting, or placing conditions upon the exercise of any such power; and,

WHEREAS, the City has previously exercised the powers granted under Chapter 453 of the 2013 Minnesota Statutes Municipal Electric Power in prior and current projects and has found those powers to be the most effective process for joint participant electric power projects; and,

WHEREAS, Minn. Stat. 453.54, subd. 2, states that a City may plan, acquire, construct, reconstruct, operate, maintain, repair, extend, or improve one or more projects within or outside the state; and,

WHEREAS, Minn. Stat. 453.52, subd. 10 defines "Project" to mean "any plant, works, system, facilities, and real and personal property of any nature whatsoever, together with all parts thereof and appurtenances thereto, used or useful in the generation, production, transmission, purchase, sale, exchange, or interchange of electric energy or any interest therein or capacity thereof;" and,



WHEREAS, the generation and transmission activities by Rochester Public Utilities satisfies the definition of a Project as a system used or useful in the generation of electric energy and,

WHEREAS, in participating in the activities related to generation and transmission of electric power, the City wishes to invoke the authority provided to it in Minn. Stat. §453.58, subd. 1 and exercise the powers granted by Section 453.51 to 453.62 to include the power to:

- plan, acquire, construct, operate, maintain, repair, extend or improve one or more projects within or outside the state
- perform any act authorized by sections 453.51 to 453.62 through or by means of its officers, agents, or employees or by contract with any person
- acquire, own, hire, use, operate and dispose of personal property
- acquire, own, use, lease as lessor or lessee, operate and dispose of real property and interests in real property and make improvements thereon
- contract with any person, within or outside the state, for the construction of any project or for the sale, with or without advertising for bids, or transmission of electric energy generated by any project or for any interest therein or any right to capacity thereof, on such terms and for such period of time as its board of directors determines.
- contract for the planning, acquisition, construction, reconstruction, operation, maintenance, repair, extension, and improvement of generation and transmission facilities outside of its corporate limits or those of its members, or may contract with other public or private owners of these facilities to perform these functions, without advertising for bids, preparing final plans and specifications in advance of construction, or securing performance and payment bonds, except to the extent that its governing body determines that these actions are desirable in furtherance of the purposes of sections 453.51 to 453.62; and,

BE IT RESOLVED by the Public Utility Board of the City of Rochester, Minnesota, to adopt this



resolution in order to fulfill the requirements of Minn. Stat. §453.58, subd. 1., and authorize the Mayor and the City Clerk to adopt the resolution for

All the Powers Granted by Minnesota Statutes Chapter 453 Sections 453.51 to 453.62 Municipal Electric Power

Passed by the Public Utility Board of the City of Rochester, Minnesota, this 23rd day of May, 2017.

President

Secretary

NOW, THEREFORE, BE IT RESOLVED by the Common Council of the City of Rochester that the City does hereby invoke its authority under Minn. Stat. §453.58, subd. 1 to exercise any of the powers granted in Minn. Stat. §§453.51 - 453.62 to a municipal power agency.

BE IT FURTHER RESOLVED by the Common Council of the City of Rochester that, pursuant to Minn. Stat. §453.58, subd. 2, the City Clerk is directed to publish this resolution in the City's official newspaper.

PASSED AND ADOPTED BY THE COMMON COUNCIL OF THE CITY OF



ROCHESTER, MINNESOTA, THIS _____ DAY OF _____, 2017.

PRESIDENT OF SAID COMMON COUNCIL

ATTEST: _____

CITY CLERK

APPROVED THIS _____ DAY OF _____, 2017.

MAYOR OF SAID CITY

(Seal of the City of
Rochester, Minnesota)

FOR BOARD ACTION

Agenda Item # (ID # 7315)

Meeting Date: 5/23/2017

SUBJECT: Billing, Credit and Collection Policy

PREPARED BY: Melissa Meixner

ITEM DESCRIPTION:

The Billing, Credit and Collections Policy is intended to protect the rights of all our customers. RPU is committed to customer service; however, our customers have the responsibility to pay for services received. Customers who fail to meet this responsibility place a burden on our paying customers.

This proposed policy would replace the Credit Policy that was created in 1990 and last updated in 2005. In the past, we have had requests from the Minnesota Public Utilities Commission asking for both policies and procedures that have been adopted by the governing Board of the Utility. This draft policy includes both policy and procedures which have not been included in earlier policies.

New proposed items included in this policy are:

Late Payment Fee

We are proposing a late payment fee equal to ten percent (10%) or \$10, whichever is greater, of the current month's billing amount. The late fee will be calculated only if the amount for that month's charges is greater than \$20. This fee would become effective with the implementation of our new Customer Information System and Billing system (CIS/B). The CIS/B system is currently expected to be launched in early 2018.

Below are late payment fees currently being charged by other Minnesota utilities for your comparison:

Minnesota Energy Resources - 1% per month on unpaid past due balances

People's Energy Cooperative - 5% of the current month's charges

Xcel Energy - 1.5% monthly, or \$1, whichever is greater on unpaid past due amounts greater than \$10

Austin Utilities - 5% of the current month's charges

Litchfield Public Utilities - 5% of the current month's charges, no minimum

Mankato - \$5 late charge plus 1% interest per month on unpaid past due balances

FOR BOARD ACTION

Agenda Item # (ID # 7315)

Meeting Date: 5/23/2017

Owatonna Utilities - 5% on the net billing for the first \$100 plus 2% on the amount in excess of \$100 per utility

Saint Peter Municipal Utilities - 10% of the current month's charges

St. Cloud Public Utilities - \$20 or 7.5% of the balance, whichever is greater

Waseca Utilities - 10% of the current month's charges

Worthington Public Utilities - 5% of the unpaid past due balance

In the 2016 Public Power Customer Service Policies Survey Report, the APPA included questions regarding late payment fees. See the attachment for results.

Deposits for new customers (those never having service with RPU)

Deposits will be required by both residential and commercial customers. We will use a third party service to run a credit check based on parameters that we have set specific for RPU. Those customers with a risk rating above a certain level will be required to provide a deposit before service is connected.

In the 2016 Public Power Customer Service Policies Survey Report, the APPA included questions regarding security deposits from new customers. See the attachment for results.

Deposit Amount

Currently, the deposit is calculated using the two highest consecutive bills in the last 12 months. We are proposing that the deposit be calculated based on the two highest month's bills from the previous 12 months, and that the "consecutive" requirement is removed. This would take effect with the implementation of the CIS/B system.

Deposit Refund

After a customer has demonstrated an acceptable payment history, we will refund their deposit. Currently, an acceptable payment history period is defined as, 12 months for residential customers, and 24 months for commercial customers, without a late or returned payment. We recommend increasing this period to 24 months for residential customers and 36 months for commercial customers. Staff feels that the current requirement does not provide a long enough time to determine their credit/pay history, especially for a startup business. This would take effect with the implementation of the CIS/B system.

FOR BOARD ACTION

Agenda Item # (ID # 7315)

Meeting Date: 5/23/2017

Automatic Removal from Budget Payment Plan

A customer who is on our Budget Payment Plan will be automatically returned to regular payment status after a predetermined number of delinquent payments. This will take effect with the implementation of the CIS/B system.

UTILITY BOARD ACTION REQUESTED:

Informational item only.

The board will be asked to approve this policy at the June 27, 2017 Board meeting.

ROCHESTER PUBLIC UTILITIES
BOARD POLICY STATEMENT

POLICY SUBJECT

Billing, Credit, and Collections

POLICY OBJECTIVE

To protect the rights of all our customers, the following policies have been established for the billing, credit and collection of reliable electric and water services provided by Rochester Public Utilities (RPU), as well as any billings on behalf of the City or any other City departments.

BILLING

Monthly bills are issued for the following utility services; electric, water, and/or any billings on behalf of the City or other City Departments. Each utility meter is read on or near the same day each month so that approximately 28-30 days of usage is recorded. Bills are created, on average, within four (4) working days of the meter being read. The date the bill is created is known as the Billing Date. Customers have the option of receiving their bill via the US Postal service or electronically.

All utility charges for the services RPU provides are calculated in accordance with the *Rate Schedule* approved by the RPU Board of Directors and Rochester City Council. All utility charges for the services Rochester Public Works provides are calculated in accordance with City Ordinances that have been approved by the Rochester City Council. Additional charges such as the Disconnection or Meter Tampering fees are included in the *Miscellaneous Fees Schedule*.

FINAL BILL

It is the Customer's responsibility to notify RPU at least three business days prior to the date of final service. A forwarding address must be provided. On the first business day or after the date specified by the Customer, a reading will be made and a final bill will be calculated.

MISCELLANEOUS BILL

A Miscellaneous billing may include charges for materials, vendor-provided services, RPU labor and equipment, and related overhead charges for service work, customer contributions in aid of capital construction, and/or the costs to repair damage to utility property. Miscellaneous charges will be added to a Customer's active utility account and will follow the same collection procedures as a monthly utility bill. An account will be created for those Customers without a utility account and will fall under the same collection procedures.

CREDIT AND COLLECTIONS

PAYMENT TERMS

All billing statements will have a Due Date for payment approximately three weeks after the Billing Date. RPU allocates standard payments over all unpaid charges, paying the oldest charges first, and then in order of service; Water, Electric, Waste Water, Storm Water, Service Assured and any other miscellaneous fees. Assistance payments from third parties will be applied per the agreement with the third-party assistance provider.

*LATE PAYMENT FEE***

All billing statements are due and payable on or before the Due Date. Bills not paid by the Due Date are subject to a late payment fee equal to ten percent (10%) or \$10, whichever is greater, of the current month's billing amount and shall be added to the Customer's outstanding account balance. If the current month's billing amount is \$20 or less, a late payment fee will not be added. In the event of a billing error, late payment fees will be removed from the account as determined by RPU staff.

PAYMENT OPTIONS

Budget Payment Plan

RPU offers a voluntary ***Budget Payment Plan*** as a convenience for qualifying Residential and Small General Service Customers. The Customer must have at least 12 months of utility bills at the service address and their account must be paid in full before signing up for this program. Upon annual reconciliation, credit balances or arrearage may be rolled over into the averaging amount for the upcoming year at the discretion of RPU staff.

If the Customer becomes delinquent on the ***Budget Payment Plan***, the account will automatically be removed from the ***Budget Payment Plan*** and returned to a regular payment status.** Delinquencies may result in further collection action, if the account is not brought current.

The ***Budget Payment Plan*** is a pre-arranged payment schedule and therefore no other payment arrangements are available. Customers disconnected for non-payment are not eligible for the ***Budget Payment Plan***. Customers can become eligible to participate in the ***Budget Payment Plan*** program again after achieving an acceptable credit history as defined below.

Automatic Bill Payments

RPU will accept ***Automatic Bill Payments*** made directly from withdrawals from a Customer's checking or savings account or from a credit/debit card. These payments are withdrawn on the bill Due Date. The customer must fill out an *Authorization for Automatic Payment* form supplied by RPU Customer Relations staff or online at www.rpu.org. The Customer will receive their monthly utility billing statement showing the payment amount to be withdrawn. The Customer may contact RPU's Customer Relations staff before the amount is withdrawn, if they do not agree with the billing or have questions.

If a Customer's payment is returned for insufficient funds or declined two times within 12 consecutive months, the Customer may be removed from the ***Automatic Bill Payments*** program. All conditions in the ***RETURNED PAYMENTS*** section will apply.

Payments on Disputed Amounts

Payments for disputed bills must be sent to or made at the RPU Service Center at 4000 East River Rd NE, Rochester, MN 55906. Payments received through the standard PO Box address that appears on the remittance stub may be returned to the Customer if payments and account balances per the remittance stub(s) do not match.

DEPOSITS

Residential and Commercial Customers are required to pay a Deposit when initiating a new electric and/or water service(s) account unless they qualify for one of the following waivers:

- 1) the Customer's credit rating meets the established criteria or;
- 2) the Customer has an existing account with an acceptable credit history as defined below, or;
- 3) the Commercial Customer provides a guarantee. A non-revocable letter of credit can be provided if it is for 36 months and equal to the deposit amount.

The customer must provide and authorize the use of their full and legitimate identity information, including a Social Security Number for an individual, proprietorship, or partnership; or a Federal Employer Identification Number for all persons or entities applying for or guaranteeing payment, to facilitate a credit check. If the customer is unable or unwilling to provide this information, a deposit in accordance with this deposit policy will be required.

The Deposit will be equal to the two highest month's bills from the previous 12 months at the service address if this is representative of the anticipated future use.** If the service has been vacant, usage from previous years may be used to calculate the Deposit amount. If a prior history is not available for the service, a Deposit will be based on anticipated use or use of a like type of Customer.

The Deposit payment is due before the service connection date.** Refusal or failure by a Customer to satisfy the Deposit requirement(s) will result in discontinuance of service until such time as the Deposit has been paid. When payment is received for the Deposit, a communication will be delivered to the Customer specifying the conditions of when the Deposit will be refunded.

Deposit requirements for previous or existing Customers;

- 1) if a Customer has a previous balance written off as uncollectible and requests new service, the uncollected amount and the Deposit is due before service is connected.
- 2) if a previous Customer, with no service currently, requests new service and they have two or more delinquent payments from their previous service within the most recent 24** months of account history for a Residential Customer or the most recent 36** months of account history for a Commercial Customer, a Deposit is due before service is connected.

- 3) if a person is transferring service from one place to another and a Deposit is required because of past payment history, the Deposit payment is due before the service connection date.

ACCEPTABLE CREDIT HISTORY

An acceptable credit history is defined as meeting all of the requirements defined below within the past 24** months of account history for a Residential account and within the past 36** months of account history for all other accounts:

- No non-pay disconnections
- No more than 1 delinquent notices
- No more than 1 late payments
- No returned checks or declined electronic payments because of insufficient funds or closed accounts
- No delinquent outstanding balance(s) from a prior account
- No bankruptcies within 7 years
- No uncollectible balances outstanding
- No unpaid miscellaneous billings

BANKRUPTCY

Customers who file for bankruptcy will be subject to the bankruptcy law, in effect, at the time of their filing. Customers filing for bankruptcy will be required to provide a Deposit in order to continue service.

INTEREST

Interest on the Deposit will be applied to the Customer's account as a credit on their monthly billing statement at least once each calendar year. The interest rate is calculated and published as provided in Minnesota Statutes, Section 325E.02.

TRANSFERS

Deposits are non-transferable from one applicant to another and are only payable to the original applicant.

REFUNDS

Residential Deposits will be applied as a credit to the Customer's account at the end of 24** consecutive months, if an acceptable credit history has been established.

Commercial Deposits will be applied as a credit to the Customer's account at the end of 36** consecutive months, if an acceptable credit history has been established.

For Customers without an active service, the Deposit and interest will be applied to their final bill. Remaining credit balances will be refunded within 45 days after the termination of service.

RETURNED PAYMENTS

Payments that are returned or declined may result in the Customer's account becoming delinquent. The Customer's account will be assessed a return fee, as established by the *Miscellaneous Fees Schedule*, and *Late Payment Fee*, if applicable.

The account will immediately be subject to the *Disconnection Procedure*. If the Customer has already been notified of a pending disconnection and their payment is returned by their bank, service will be disconnected without further notice.

A Customer with more than two (2) of any combination of the following: NSF or account closed checks, declined ACH payments, or declined credit/debit card payments; within a twelve (12) month period, will be required to make future payments in cash, money order, cashier's check, wire transfer or credit card until achieving an acceptable credit history as defined above.

OVERPAYMENT & UNDERPAYMENT

In the event a Customer overpays their utility bill, and is not delinquent, the overpaid amount will remain on the account and be applied to the next bill. Overpayments caused by payments made via check or ACH may be subject to a waiting period before a refund is issued to ensure funds clear the Customer's bank.

For overpayments and underpayments as a result of a billing error, refer to *Adjustment of Electric and Water Bills Policy*.

Partial payments, although accepted, will not prevent disconnection of utility service(s) unless other payment arrangements are made with RPU staff.

DELINQUENT ACCOUNTS AND DISCONNECTION OF SERVICE

PAST DUE ACCOUNTS

Unpaid accounts shall be considered past due on the first calendar day following the Due Date.

COLLECTION OF PAST DUE ACCOUNTS

When all administrative efforts at collecting a past due account have been exhausted, alternative collection methods may be used, including but not limited to legal action, utilizing collection agencies, and/or submitting a claim to the Local, State or Federal Revenue Recapture Programs.

RPU also reserves the right to assess delinquent electric, water, and/or any billings on behalf of the City or other City Department charges incurred by the property owner, against the property, with Olmsted County through approved legal process for assessment, according to all state and local laws.

DISCONNECTION OF SERVICE

RPU shall attempt to collect delinquent accounts promptly. Where satisfactory arrangements for payment have not been made, and after notification requirements have been complied with, utility services will be disconnected.

Emergency Situations

Where it is necessary that the utility service be temporarily disconnected or connected to protect health, life or property, RPU will, at its discretion, take such action without charge or notice to the Customer.

COLD WEATHER RULE

From October 15 to April 15, RPU acknowledges and complies with the State of Minnesota Cold Weather Rule for Municipal Utilities under Minnesota Statutes, Section 216B.097.

DECEASED CUSTOMER

Upon death of a Customer, the service will be removed from that person's name as quickly as possible. As soon as the death of a Customer is known, RPU will send the family a letter giving them a thirty (30) day notice that the name needs to be changed on the account. In the event that service is not transferred within thirty (30) days, RPU reserves the right to discontinue service and apply the Deposit (if applicable) to all outstanding balances owed to RPU in the name of the deceased individual's account.

DISPUTES AND APPEAL*DISPUTED PROCESS*

The Customer may dispute a bill that they feel is in error by calling or writing to RPU. We will investigate all disputes. We will not disconnect a service for non-payment of a disputed bill provided: (1) the Customer notifies us before the bill is delinquent and (2) the Customer pays all other undisputed charges when due.

APPEAL PROCESS

When a Customer is dissatisfied with action taken on his or her dispute, he or she has the right to appeal. A detailed written notice of the issue must be received by RPU within 30 days of the initial dispute. The appeal will be reviewed by RPU management to decide whether or not RPU policies and procedures have been administered properly on the Customer's behalf. Management will respond to the Customer with their findings and any further course of action, if needed.

METER TAMPERING*TAMPERING/THEFT*

RPU follows Minnesota Statutes, Sections 325E.026 and 609.52 with regards to the unauthorized use of Utility meters and theft of service.

All connections to RPU's service equipment shall be made by RPU or RPU authorized personnel only. Unauthorized connections to or tampering with any RPU meter, associated equipment or meter seals, or indications or evidence thereof subjects the Customer to immediate discontinuance of service, prosecution under the laws of Minnesota, adjustment of prior bills for services rendered, and reimbursement to RPU for all legal and other expenses incurred on the account.

** Effective when the new Customer and Billing system implementation is complete.

EFFECTIVE DATE OF POLICY:

July 24, 1990

DATE OF POLICY REVISION:

May 23, 2017

POLICY APPROVAL:

Board President

Date

DRAFT

ROCHESTER PUBLIC UTILITY BOARD POLICY STATEMENT

POLICY SUBJECT: CREDIT POLICY

POLICY OBJECTIVE:

To ensure reasonable safeguards against write-offs of customer accounts receivable for utility service, the Utility Board has incorporated a policy for securing accounts.

POLICY STATEMENT:

New customers may not be required to provide a deposit as a condition of obtaining new service. New customers will be defined as those never having had service with RPU.

Existing or previous customers may be required to assure payment of their account by submitting a deposit if they have an unacceptable credit history. An unacceptable credit history is defined as more than two delinquent notices or returned checks, and any service disconnects within the last 12 months on residential accounts and 24 months on commercial accounts. Also an unacceptable credit history may include an outstanding balance on a prior account, or an account that has been written off as uncollectible.

The deposit payment is due the day service is connected. At the time the deposit is made, a written receipt will be furnished specifying the conditions the deposit will be diminished upon return. If not received, standard collection procedures will be followed resulting in possible disconnection of service.

Deposit Amount

The deposit amount will be equal to the two highest consecutive month's bills for the past 12 months, at the new service address, rounded to the nearest dollar. If the service has been vacant, usage from the previous years may be used to calculate the deposit amount. If a prior history is not available for that service, the deposit will be based on another service with similar service characteristics. The deposit amount may be revised based upon a change in the customer's service address or usage. The minimum deposit will be \$50 for an apartment, \$100 for a house and \$300 for a commercial service.

Interest

Any interest payable on a customer's deposit will appear as a credit on a normal monthly billing statement at least once each calendar year, the billing statement where the deposit is refunded, or the final billing statement. The interest rate is calculated and published under Minnesota Statute 325E.02

Deposit Transfers

Deposits are non-transferable from one individual to another.

Deposit Refunds

Refunds of residential deposits are applied as a credit to the customer's account at the end of 12 consecutive months if an acceptable credit history has been established.

Refunds of commercial deposits are applied as a credit to the customer's account at the end of 24 consecutive months if an acceptable credit history has been established

Customers no longer having an active service in their name will have the deposit and interest applied to the final bill. Any remaining credit balance will be refunded to that customer within 45 days after termination of service.

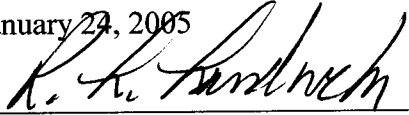
EFFECTIVE DATE OF POLICY:


July 24, 1990

DATE OF POLICY REVISION:

January 24, 2005

POLICY APPROVAL:


Board President


Date

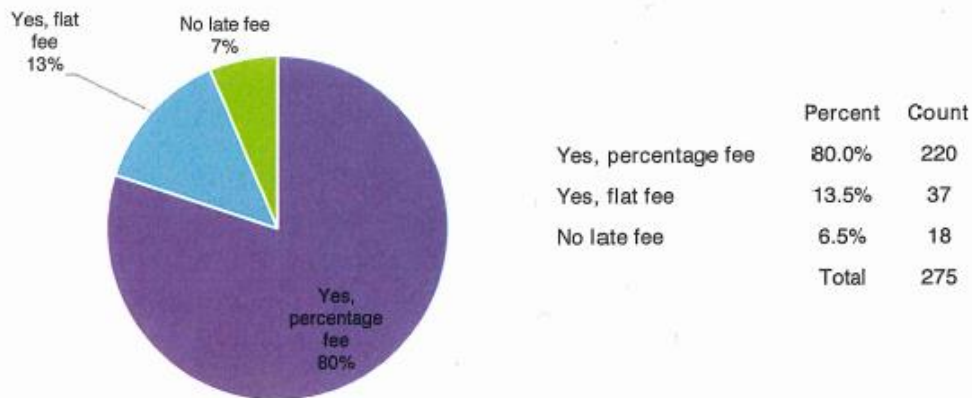
This information came from the 2016 Public Power Customer Service Policies Survey Report prepared by the American Public Power Association.

8. Do you collect a security deposit or other guarantee of payment from new customers?



	Yes		No	
Residential - Renters	85.2%	242	14.8%	42
Residential - Owners	68.1%	190	31.9%	89
Commercial	85.5%	241	14.5%	41

42. Do you charge an additional fee for late payment of an electric bill?



What is the late fee?

	Average	Min	1Q	Median (2Q)	3Q	Max	Count
Percentage fee	5.87%	.01%	1.5%	5%	10%	55%	214
Flat fee	\$13.13	\$2	\$5	\$10	\$15	\$101.50	35