# WYOMING PUBLIC SERVICE COMMISSION REQUIRED COVER SHEET FOR ALL FILINGS AND APPLICATIONS

Full Company Name _	Powder River Energy C	orporation		
Company ID	10014	D	ate March 31	, 2023
Street Address	221 Main Street	Sundance	WY	82729-0930
Mailing Address	PO Box 930	City Sundance	State WY	Zip (plus 4 digits) 82729-0930
Contact Daman	Stanhania I Drihilalza	City	State Executive Staff	Zip (plus 4 digits)
Contact Person	Stephanie J. Pribilske Name		Title	Assistant
	Type of filing (	check all t	that apply)	
Rules & Regula	ntions			
Tariffs included	d Yes		No	
Service List inc	cluded Yes		No	
Total Amount Request	ed	☐ Increase	Decrease	☐ Implement New Rate
Amount Requested Per	r	(unit)		
Type	e of Filing and Fee	es (check a	all fees that	apply)
Interconnecti	on Agreement \$5.00		Securi	ties Filing <b>\$15.00</b>
X Tariff Revision	ons <b>\$5.00</b>		Reorg	anization <b>\$100.00</b>
Transfer of C	Customer Base Service \$5.	.00	☐ Merge	ers <b>\$100.00</b>
Name Chang	e <b>\$5.00</b>		Transf	fer of Control <b>\$100.00</b>
☐ IXC Registra	tion (Reseller) <b>\$5.00</b>		Applie	cation <b>\$5.00</b>
Application Necessity \$1	Certificate of Public Con	venience &	☐ Comp	liance Filings <b>No Charge</b>
☐ ILEC and CI	LEC- New Filings <b>\$15.00</b>			
TOTAL AMOUNT EN	NCLOSED \$ 5.00		Docket No	o. 10014-229-CT-23
	Compli	iance Filir	ngs	
Compliance Fil	ling?	☐ No	Docket N	0
Revision/Amer	nded Filing?	☐ No	Docket N	0

Revised: 11-08-18



1-800-442-3630

March 31, 2023

Mr. John Burbridge Wyoming Public Service Commission Hansen Building, Suite 300 2515 Warren Avenue Cheyenne, WY 82002

Re: Docket No. 10014-229-CT-23

Application for Changes to Rules and Regulations

Dear Mr. Burbridge

In this Application, Powder River Energy Corporation is requesting to add language to Section IV, Meter Location, article (a) establishing meter equipment clearance needed from other wiring, communication equipment, utilities, and such to avoid interference during the Cooperative's maintenance and testing activities. In addition to the new language, other minor administrative changes are being proposed to correct punctuation type issues. The new language being proposed is a part of the Cooperative's transition to an automated meter information (AMI) meter and communication system.

An original printed version of this Application and supporting Exhibits has been sent to your attention along with a check in the amount of \$5.00 for the applicable filing fee.

Thank you for your consideration.

Sincerely,

Brian J. Mills

Chief Executive Officer

BJM/sjp

**Enclosures** 

#### BEFORE THE WYOMING PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF	)	
POWDER RIVER ENERGY COOPERATIVE	)	
SUNDANCE, WYOMING, TO REVISE ITS	)	DOCKET NO. 10014-229-CT-23
RULES AND REGULATIONS	١	

#### **APPLICATION**

COMES NOW, Powder River Energy Corporation, the Applicant named herein and sometimes herein called the "COOPERATIVE," and hereby respectfully requests an Order from the Wyoming Public Service Commission, sometimes herein called the "COMMISSION" granting the Applicant authorization to revise its Rules and Regulations Section IV. Electric Service Regulations (Meter Location), Section V. Line Extension Policy (Non-Industrial Line Extension), and Section IX. Meter Testing and Verification Program, as set forth in the exhibits attached hereto and made a part of this reference.

IN SUPPORT of this Application, the Applicant sets forth the following:

- 1. The Applicant is a non-profit cooperative utility organized, existing under and by virtue of the laws of the State of Wyoming. The Cooperative, pursuant to the laws of the State of Wyoming, is qualified to do business as a corporation within the State of Wyoming.
- 2. The Cooperative is duly authorized to generate, manufacture, purchase, acquire, and transmit electric energy, sell supplies, and dispose of electric energy in its certified territory.
- Communications regarding this Application are to be addressed to Mr. Brian J. Mills, Chief Executive Officer for the Applicant, Post Office Box 930, Sundance, Wyoming 82729, and Ms. Kara Ellsbury, Attorney for the Applicant, Post Office Box 1083, Cheyenne, Wyoming 82003-1083.
- 4. The Rules and Regulations, and rates charged by the Cooperative for its electric service have been established and placed in effect under appropriate Orders of the Commission.
- 5. The Cooperative is a Class C member of Basin Electric Power Cooperative (Basin), Bismarck, North Dakota. The Cooperative is a member of Members 1<sup>st</sup> Power Cooperative

- who represents a Class A member of Basin and therefore purchases all its power requirements through agreements and contracts with Basin and resells that power to its members which include Powder River Energy Corporation, Tongue River Electric Cooperative, Inc. in Ashland, Montana, and Fergus Electric Cooperative, Inc. in Lewistown, Montana.
- 6. In this Application the Cooperative is requesting to add language to Section IV, Meter Location, article (a) establishing meter equipment clearance needed from other wiring, communication equipment, utilities, and such to avoid interference during the Cooperative's maintenance and testing activities. In addition to the new language, other minor administrative changes are being proposed to correct punctuation type issues. The new language being proposed is a part of the Cooperative's transition to an automated meter information (AMI) meter and communication system. See Exhibit A Catalog of Changes for specifics on the changes, and Exhibits B and C, the legislative and proposed versions, respectively, of the impacted rule sheets.
- 7. In this Application, the Cooperative is also requesting to revise its Line Extension Policy for Non-Industrial Line Extensions adding a provision that in the event a line extension request is cancelled after a certain point the Cooperative will have the authority to withhold or invoice the applicant for costs incurred by the Cooperative up until the point of cancellation. This provision exists in the Cooperative's Line Extension Policy "Industrial Line Extension" language however when the Cooperative combined its Standard Line Extension and Coal Bed Methane Line Extension Policies in Docket No. 10014-217-CT-21 Record No. 15737 it inadvertently left the language out of the "Non-Industrial Line Extension" portion of the combined policy. In addition to the new language, other minor administrative changes are being proposed to correct punctuation type issues. See attached Exhibit A Catalog of Changes, for specifics on the changes, and Exhibits D and E, legislative and proposed versions respectively, of the impacted rule sheets.
- 8. Finally, in this Application the Cooperative is requesting to revise its Meter Testing and Verification Program to account for technological and procedural changes brought about by the Cooperative's transition to an AMI meter and meter communication system. Key changes were to Section IV. Qualifications, and Section V. Meter Testing and Verification Schedule. In addition to these proposed changes, other minor administrative changes are

being proposed to correct punctuation type issues. See attached **Exhibit A** – Catalog of Changes, for specifics on the changes, and **Exhibits F** and  $\mathbf{G}$ , legislative and proposed versions respectively, of the impacted rule sheets.

WHEREFORE, Powder River Energy Corporation respectfully requests the Commission make its Order authorizing the Cooperative to revise its Rules and Regulations Section IV. Electric Service Regulations (Meter Location), Section V. Line Extension Policy (Non-Industrial Line Extension), and Section IX. Meter Testing and Verification Program, and make other administrative changes as noted in this Application. The Applicant further requests that these changes become effective for service on or after June 1, 2023, or the Commission's earliest convenience.

Dated at Sundance, Wyoming, this 31st day of March 2023.

POWDER RIVER ENERGY CORPORATION

Brian J. Mills

Chief Executive Officer

The following table is intended to capture and explain the substantive proposed changes to Powder River Energy Corporation's ("Corporation" or "PRECorp") tariffs. The table provides information on the Section, Sheet Number, and Tariff Heading of where the changes are being made, as well as briefly explaining the Change and Reason for the change. Substantive changes are those that are pervasive throughout the documents, are deviations, clarifications, or otherwise meaningful changes within the Corporations tariffs.

Rule Section and Sheet #	Heading or Rate Schedule	Change	Reason
Section IV – ELECTRIC SERVICE REGULATIONS, Sheet 23R	METER LOCATION	Add language to (a) regarding required workspace clearances relevant to meter maintenance and testing.	The added language is intended to set an expectation regarding the clearance or room needed to properly maintain and communicate with the Corporation's meter equipment. The clearance also assures no interference with the member's equipment such as GFCI power protection.
Section V – LINE EXTENSION POLICY, Sheet 37R	IV. NON- INDUSTRIAL LINE EXTENSION	Insert new B. reading "In the event the line extension is cancelled for any reason, the Corporation will retain sufficient funds, or will invoice for costs if the line extension is to be financed, to defray all costs incurred before the time of cancellation."	The authority for the Corporation to retain or collect costs it incurred up to the point a line extension was cancelled was intended to apply to both INDUSTRIAL and NON-INDUSTRIAL line extensions. However, as currently written and approved, PRECorp's Policy does not provide this authority when NON-INDUSTRIAL line extensions are cancelled. This change will correct that oversight.
Section V – LINE EXTENSION POLICY, Sheet 37R-39R	IV. NON- INDUSTRIAL LINE EXTENSION	Current B, becomes C, current C becomes D, current D becomes E, current E, becomes new F.	Re-letter current lettering in section to accommodate the insertion of new B provision.

Rule Section and Sheet #	Heading or Rate Schedule	Change	Reason
Section IX – METER TESTING AND VERIFICATION PROGRAM, Sheets 50R-52R	IV. QUALIFICATIONS	Revised item A. 2. Quality assurance meter test sample percent by Corporation before installation from 100 percent to 8 percent.	The testing process is to test a percentage of every lot received to ensure no damages during shipment and trackability to any lot. Manufacturer percentage of testing remains at one hundred (100) percent.
		Revised item A. 4. To read ability to "monitor" to ability to "evaluate" member usage abnormalities "on a daily basis" to "through daily reads."	The load at each service is not actively monitored by any person but meter records and data are stored and can be evaluated upon member request or if validation of service performance is necessary.
		Removed A. 5. Random sample testing and field verification of meters after ten (10) years in service.	Meter testing and verification is performed against a random sample of meters regardless of age of installation. This removes the impression that the age installation initiates a verification.
		New A. 5. is old A. 6. New A. 6. That states "Meter forms other than instrument rated meter forms will be random sample tested per Meter Testing and Verification Schedule."	References Section IX., V. Meter Testing and Verification Schedule below in this section. Add this verbiage to include all non- instrument rated meters in random sample verification pool.
		Add A. 7. Referencing where meter test results will be stored.	Information from each test, either field or bench test, is stored within our equipment management database under Service>

Rule Section and Sheet #	Heading or Rate Schedule	Change	Reason
			Management> Meters>Meter Test.
		Replaced Table 1. Meter Forms and Associated Information with new table/data.	The AMI system introduced additional meter letter designations for the same meter forms. This was to assist in tracking meter exchanges during deployment. Some meter letter designation replaced with this deployment were retained in this table until validation all inventory of that meter type could be purged.
		Revised B. Test Equipment, 1. Laboratory Meter Test Boards to include the WECO 4050.	The Corporation has purchased/added another meter test board so is adding it to our listing of test equipment used.
Sheets 53-54	V. METER TESTING AND VERIFICATION SCHEDULE.	Edited B. Meter Testing and Verifications section to reflect change to Automated Meter Infrastructure (AMI) meter form and not relevant to meter form specifically.	Adjusted to remove quantities collected by other processes such as GIS mapping and transformer inventory management and to remove quantities that are not relevant to the digital meters versus electromechanical meters. Meters also report additional quantities that are stored in the location identified above.
		Removed F. 4., "Record endpoint reading;" and F. 5. "If there is a 100 kWh or more discrepancy between the endpoint and the meter, the meter will	"Endpoint" refers to a technology that used to allow the AMR system to read older meter types. This type of Endpoint will not be needed by PRECorp with the AMI system.

Rule Section and Sheet #	Heading or Rate Schedule	Change	Reason
		be replaced at the time of testing."	

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 21R Cancels <del>Original</del> 1<sup>st</sup> Revised Sheet No. 21R

**Electric Service Regulations** 

**Section IV** 

# RULES AND REGULATIONS OF SERVICE Section IV ELECTRIC SERVICE REGULATIONS

#### MEMBER'S WIRING

All electric wiring and equipment installed on the member's side of the "point of delivery" shall be at the member's expense and shall be installed and maintained in accordance with the requirements of the National Electrical Code and with all requirements prescribed by governmental authority having jurisdiction thereof. The Corporation reserves the right to refuse to connect to any wiring or apparatus which does not meet these requirements, and the Corporation may without further notice discontinue service to any member when a defective condition of wiring or equipment located adjacent to, and which is clearly visible from the Corporation's metering point is discovered.

The Corporation will not be responsible for any loss, injury, or damage, which may result from defects in electric wiring or equipment belonging to the member.

The Corporation may refuse to install a meter when the member's wiring, which is located adjacent to and which is clearly visible from the Corporation's metering point, is defective or considered hazardous.

#### MEMBER'S RESPONSIBILITY

The member shall not permit anyone who is not an agent of the Corporation to remove or tamper with the Corporation's property or equipment.

Non-residential members shall provide coordinated sectionalizing equipment (i.e., fused or breaker disconnects, fused cutouts, reclosers or breakers), acceptable to the Corporation, immediately adjacent to the Corporation's point of delivery. The member's sectionalizing equipment is required to protect the system of the Corporation from faults, transients and overcurrents conditions that occur on the system of the member. This equipment may also provide a suitable means for the member to disconnect from the system of the Corporation. The sectionalizing equipment shall coordinate with the sectionalizing equipment on the Corporation's system. The member shall submit their recommended sectionalizing equipment, with Time Current Characteristic (TCC) information, to the Corporation for review and approval by the Corporation's engineering department.

When disturbances in the Corporation's electrical system are observed, the Corporation may investigate and determine the cause and corrective action. If it is determined the disturbance(s) are caused by the member's system or operation of that system, the member may be required to install additional equipment or correct existing equipment. Members may also be required to make adjustments in the operation of their systems to alleviate the observed disturbance(s).

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 22R Cancels Original 1<sup>st</sup> Revised Sheet No. 22R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR PROTECTION

The member shall install protective devices, i.e., motor saver equipment, to protect the member's three\_-phase motors from single phasing during Corporation's system protection equipment operation and manual operation of line switching equipment by Corporation personnel.

#### SYSTEM BALANCE

When installing three\_-phase equipment on the Corporation's system, the member shall take all necessary steps to maintain a system balance within three percent (3%) voltage, at the point of common coupling (PCC).

#### CHANGES IN MEMBER'S ELECTRICAL EQUIPMENT

In the event a member increases the size of the electrical equipment or otherwise adds to the service's electrical load, the member shall notify the Corporation so that the capacity of its system, transformer, meter, and other related equipment may be reviewed to determine if the equipment can accommodate the increase in load.

The member, when failing to advise the Corporation of changes in a timely fashion, assumes responsibility for any subsequent damage to the member's or the Corporation's property and equipment from the increased load or operational change.

#### **USE OF METER**

- (a) All meters furnished by the Corporation are the property of the Corporation and only Corporation-authorized personnel shall install, remove, test, adjust or conduct any repair of maintenance work thereon.
- (b) The Corporation shall install and maintain at its own expense, all equipment necessary to regulate and measure the commodity delivered for billing.
- (c) Upon the Member's request, the Corporation may install and maintain additional metering at the Member's expense.
- (d) Any non-metered electric utility service shall be governed by tariff or special contract.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 23R Cancels Original 1<sup>st</sup> Revised Sheet No. 23R

#### **Electric Service Regulations**

Section IV

#### METER LOCATION

The meter may be installed on a pole, pedestal, or the service structure in compliance with NESC and NEC requirements, as applicable.

- (a) Meters and associated devices shall be installed in a reasonable location accessible for reading, testing, inspection, removal, and where such activities will minimize interference and inconvenience to the member and Corporation. Member's wiring, communication equipment and/or other utilities should maintain workspace clearance of twelve (12) inches on each side of the metering equipment to avoid interference during maintenance and testing activities.
- (b) No meter shall be installed in any location where the meter or associated service lines may be unnecessarily exposed to damage.
- (c) The member shall provide, without cost to the utility, a suitable location accessible for metering and installation of equipment required to receive service.
- (d) Meters for member locations are not allowed inside buildings.
- (e) The Corporation has the right to clear its service conductors, connections and rights-of-way of any interfering tree, shrub, or other obstruction or to require the member to clear and remove the interfering obstruction at the member's expense. Failure to comply may, after required noticing, result in the discontinuation of a member's service.
- (f) All electric meters shall be located, designed, and installed in accordance with the National Electric Code (NEC), National Electric Safety Code (NESC), and the Corporation's approved standards as listed under "Construction and Engineering Standards" on the Corporation's website <a href="www.precorp.coop">www.precorp.coop</a> under "Member Center."

#### METER ACCURACY, MEASUREMENT AND STANDARDS

- (a) Inaccurate, improper, or non-certified meters, including those for which accuracy has not been established, shall not be placed in service, or allowed to remain in service. Meters that register upon zero load are considered inaccurate. New meters and serviced meters shall be in good repair and adjusted as closely as practicable to zero error. All meters shall conform to the standards of the American National Standards Institute (ANSI).
- (b) All service meters shall clearly indicate the units of measurement for which the member is charged. If the Corporation invoices members in a different unit of measurement than the service meter indicates, the conversion factor shall be stated on the member bill. Metering in the following units is required: kilo-watt hours (kWh), kilo-volt-amp hours (kVAh), demand in kilo-watts (kW), kVARh, and Power Factor depending upon service requirements.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 24R Cancels Original 1<sup>st</sup> Revised Sheet No. 24R

#### **Electric Service Regulations**

Section IV

#### MOTOR STARTING CURRENT LIMITATION

In view of the Corporation's responsibility as an electric utility operating within the State of Wyoming and under the Rules of the Wyoming Public Service Commission, it is essential that uniform voltage, in accordance with ANSI C84.1, be maintained throughout the system to ensure proper operating power for all members.

In order tTo provide for adequate and proper controls against voltage fluctuations, the member shall, prior to installing any motor with a horsepower rating exceeding that stated in this policy, provide the Corporation with information required by the Corporation to assess the motors impact on the Corporation's system.

The Corporation reserves the right to require the member to install, at his/her own expense, reduced voltage starting equipment, or other accepted means of starting. The Corporation may require the addition of this equipment for new motor installations or on existing motor installations that the Corporation determines is creating undue voltage fluctuation or transients on the power lines.

Motor Starting Current Limitation Part A below outlines the parameters for operation of a single phase motor served by the system of the Corporation and the locked rotor limitations for motors up to 10HP. -Motors operating outside these parameters or greater than 10HP may still be allowable, with review and acceptance by the Corporation.

Motor Starting Current Limitation Part B below outlines the parameters for operation of a three-phase motor served by the system of the Corporation and the locked rotor limitations for motors up to 50HP. -Motors operating outside these parameters or greater than 50HP may still be allowable, with review and acceptance by the Corporation.

All instances of a three phase motor connected to a single phase service (via a conversion device similar to Add-a-Phase or Roto-Phase), where the horsepower equivalent of the three phase pump on the single phase terminal of the converter is greater than 7.5HP, are required to be reviewed and approved by the Corporation's engineering department. For all sizes equal to or less than 7.5HP equivalent at the single\_-phase terminals, the locked rotor amperage must comply with the table in Part A.

- A. Single phase motors size(s) permitted
  - Single phase, infrequently started motors, may be operated at 120 volts provided the motor's locked rotor current does not exceed 45 amperes.
  - 2) Single phase, frequently started motors may be operated at 120 volts provided their locked rotor current does not exceed 25 amperes.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 25R Cancels Original 1<sup>st</sup> Revised Sheet No. 25R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

- Single phase motors of 10 HP or less may be operated at 208 or 240 volts except that when the nameplate rating is higher than 5 HP, compensating starting equipment shall be installed to limit starting current. In locations where three-phase service is not available, single-phase motors larger than 10 HP may be operated only with the express written consent of the Corporation.
- 4) All single- phase motors exceeding the limitations of paragraphs (1) and (2) above must be operated at 208 or 240 volts and the locked rotor currents must not exceed the following ampere size. Any requested motor starting currents in excess of the following table requires review and acceptance by the Corporation.

## MAXIMUM PERMISSIBLE LOCKED ROTOR CURRENT (Amperes at Motor Terminals)

HP	AMPS
1 and smaller	35
1.5	40
2	50
3	70
5	100
7.5	
10	120

- B. Three phase motors size(s) permitted
  - In general, three phase motors of 10 HP or less nameplate rating operating at 208 or 240 volts may be equipped for across the line starting; motors larger than 10 HP may use across the line starting but require review of starting frequency, starting current, location, etc. and written approval from the Corporation prior to energization. Reduced voltage starting equipment, where required, will be furnished by the member.
  - 2) Three phase motors rated at 208, 220 or 440 volts must have locked rotor currents that do not exceed the following amperage (A) per phase, measured at the motor terminals. Any requested motor starting currents in excess of the following table requires review and acceptance by the Corporation.

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 26R Cancels Original 1<sup>st</sup> Revised Sheet No. 26R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

MAXIMUM PERMISSIBLE LOCKED ROTOR CURRENT (Amperes at Motor Terminals)

#### **Motor Voltage Rating**

<u>Horsepower</u>	<u>208</u>	<u>220</u>	<u>440</u>
5 and below	92	87	44
7.5	122	115	58
10	149	141	71
15	208	197	99
20	266	251	126
25	322	304	152
30	381	360	180
35	392	370	185
40	402	380	190
50	423	400	200

- 3) For motors above 50 HP the Corporation will review the service location and determine the permissible locked rotor current for the installation.
- 4) Current values listed in these tables are those corresponding to the rated nameplate voltages of the motors. Tests or specified current values for other voltages shall be adjusted to the rated voltage of the motor.
- When a single piece of motor driving apparatus or equipment has more than one motor starting simultaneously, the sum of the maximum starting currents and the sum of the horsepower rating of those motors starting simultaneously shall be used in applying the above tables. For test purposes, the starting current of motorized equipment may be considered at seventy-five percent (75%) of the locked rotor current.
- C) Determination of locked rotor currents:
  - 1) Locked rotor currents are obtainable from motor manufacturers or may be calculated from the nameplate data on the motor as follows:
    - a. Obtain HP, voltage and NEMA Code Letter Rating from the motor nameplate.
    - b. Obtain the kVA per horsepower with locked rotor for the motor by referring to the following tabulation taken from Paragraph 94304 of the *National Electrical Code* and selecting the value that corresponds to the Code Letter Rating of the motor.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

c. Calculate locked rotor amperes by the following formulas:

**Single Phase Motor**- locked rotor amps =

1,000 x locked rotor kVA per HP from Table x HP rating of motor Voltage Rating of Motor

<u>Three Phase Motor</u> - locked rotor amps =

1,000 x locked rotor kVA per HP from Table x HP rating of motor
1.73 x voltage rating of motor

d. The locked rotor currents specified in the above tables are for average conditions only. In areas where frequent starting of motors is found to impact the electrical service to other members, supplied from the same secondary or primary line, the Corporation reserves the right to limit locked rotor currents to values smaller than those described in Motor Starting Current Limitation Part A, Part B or this section.

<b>Code Letter</b>	kVA per HP with Locked Rotor
A	
В	3.15 3.54
C	3.55 3.99
	4.0 4.49
	4.5 4.99
F	5.0 5.59
G	5.6 6.29
	6.3 7.09
	7.1 7.99
	8.0 8.99
	9.0 9.99
	14.0 15.99
	20.0 22.39

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

Issued: March <u>1231</u>, 202<u>13</u>

2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 28R Cancels Original 1<sup>st</sup> Revised Sheet No. 28R

#### **Electric Service Regulations**

Section IV

#### HARMONIC DISTORTION LIMITATION

All members within the service area of the Corporation who take delivery of electric service from, or generate electricity onto, the Corporation's system, and who create excessive harmonics on the Corporation's system, will be required to comply with this Rule and Regulation.

#### **DEFINITIONS**

**Harmonics** – In 60-hertz electric power systems, a harmonic is a sinusoidal component of the 60-hertz fundamental wave having a frequency that is an integral multiple of the fundamental frequency.

Excessive Harmonics –In this tariff, Excessive Harmonics shall mean levels of current or voltage harmonic distortion at the point of common coupling between the Corporation and the member outside the levels recommended in the Institute of Electrical and Electronics Engineers (IEEE) Standard 519-2014 (Revision of IEEE Standard 519-1992) Recommended Practices and Requirements for Harmonic Control in Electric Power Systems and these Rules and Regulations.

Maximum Demand Load Current  $(I_L)$  – This current value is established at the point of common coupling and should be taken as the sum of the currents corresponding to the maximum metered demand during each of the twelve (12) previous months divided by twelve (12). In the event that twelve (12) previous months of metered demand data is not available, the Corporation's engineering department will determine the most prudent value to utilize for the maximum demand load current based on available demand information, field measurements, and an understanding of the member's load.

**Short Circuit Current** (**I**sc) – This current value is provided by the Corporation at the Point of Common Coupling (PCC).

**Point of Common Coupling (PCC)** – The PCC or point of interconnect between the Corporation's electrical system and the member's facilities where delivery of electrical service is taken by the member. This point is typically at the electrical meter terminals or on the low voltage side of the transformer, but may be dependent upon the type and design of the electrical service provided.

**Short-Circuit Ratio** – At a particular location, the ratio of the available short-circuit current (in amperes), as determined by the Corporation's engineering department, at the PCC to the load current (in amperes.)

Current Total Harmonic Distortion (THD) – The ratio of the root mean square of harmonic content, considering harmonic components up to the fiftieth (50<sup>th</sup>) order and specifically excluding inter-harmonics, expressed as a percent of the current fundamental. Harmonic components of order greater than fifty (50) may be included when necessary.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 29R Cancels Original 1<sup>st</sup> Revised Sheet No. 29R

#### **Electric Service Regulations**

Section IV

#### DEFINITIONS (cont'd)

**Voltage Total Harmonic Distortion (VTHD)** – The ratio of the root mean square of the harmonic content, considering harmonic components up to the fiftieth (50th) order and specifically excluding inter-harmonics, expressed as a percent of the voltage fundamental. Harmonic components of order greater than fifty (50) may be included when necessary.

**Total Demand Distortion (TDD)** – The ratio of the root mean square of the harmonic content, considering harmonic components up to the fiftieth (50th) order and specifically excluding interharmonics, expressed as a percent of the average peak demand current. Harmonic components of order greater than fifty (50) may be included when necessary.

**Member Harmonic Distortion Limits** – The following limits also define excess harmonic limitations:

- a) Daily ninety-ninth percentile (99th%), very short time (three (3) seconds) harmonic currents should be less than two (2) times the values in the table below.
- b) Weekly ninety-ninth percentile (99th%), short time (ten (10) minutes) harmonic currents should be less than one and one-half (1.5) times the values in the table below.
- c) Weekly ninety-fifth percentile (95th%), short time (ten (10) minutes) harmonic currents should be less than the values in the table below.

### **Current Distortion Limits for General Distribution Systems**

Rated 120 V through 69 kV

Maximum ha	Maximum harmonic current distortion in percent of $I_L$					
Individual ha	armonic order	(odd harmoni	cs) <sup>a, b</sup>			
$I_{sc}/I_L$	$I_{sc}/I_L$ $3 \le h < 11$ $11 \le h < 17$ $17 \le h < 23$ $23 \le h < 35$ $35 \le h \le 50$ TDD					
< 20°	4.0 2.0 1.5 0.6 0.3 5.0					
20 < 50	7.0	3.5	2.5	1.0	0.5	8.0
50 < 100	50 < 100 10.0 4.5 4.0 1.5 0.7 12.0					
100 < 1000	12.0	5.5	5.0	2.0	1.0	15.0
> 1000	15.0	7.5	6.0	2.5	1.4	20.0

<sup>&</sup>lt;sup>a</sup>Even harmonics are limited to twenty-five percent (25%) of the odd harmonic limits above.

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<sup>&</sup>lt;sup>b</sup>Current distortions that result in a direct current offset, e.g., half-wave converters are not allowed.

<sup>&</sup>lt;sup>c</sup>All power generation equipment is limited to these values of current distortion, regardless of actual I<sub>sc</sub>/I<sub>L</sub>.

2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 30R Cancels Original 1<sup>st</sup> Revised Sheet No. 30R

#### **Electric Service Regulations**

**Section IV** 

#### DEFINITIONS (cont'd)

If the measured TDD or individual harmonic order values are greater than allowed, as stated above, the member shall be required to take such corrective measures as necessary, including the installation of active or passive filtering, to guarantee compliance with the described values.

Failure to comply with the direct current offset conditions may result in a discontinuation of the member's service per the Corporation's Rules and Regulations Section III – Discontinuation of Service to Members.

#### APPLICATION OF RULES

- A) Applicable Standards in addressing harmonics problems, the Corporation and the member shall implement, to the extent reasonably practicable, and in conformance with prudent operation, the practices outlined in IEEE Standard 519-2014, to the extent not inconsistent with law, including state and federal statutes, orders, regulations, and applicable municipal regulations.
- B) Investigation and Corrective Action the Corporation may investigate and determine the cause of the excessive harmonics. If the Corporation determines that the member has created excessive harmonics that cause or are reasonably likely to cause another member to receive unsafe, unreliable, or inadequate electric service, the Corporation will provide written notice to the member creating the excessive harmonics. The notice shall state that the Corporation has determined that the member has created an excessive harmonics condition and that the Corporation has explained the source and consequences of the harmonic problem. The notice will give the member two (2) options to cure the problem:
  - 1. The member may elect to cure the problem on his/her side of the PCC, at his/her cost, but the remedy must occur within six (6) calendar weeks of notification and will be specified in the notice. If the cost of the harmonic's mitigation project exceeds \$10,000, the Corporation and the member may establish a mutually acceptable time period to correct the harmonics violation. If the harmonics violation creates a safety issue for the member causing the harmonics violation or any potentially affected members, remediation will need to be expedited or discontinuation of power may be immediate.
    - 2. If the member does not cure the problem after being notified, and within the allotted time, the Corporation will cure the problem on its system and assess all charges, including overheads, to the member. For facilities installed by the Corporation for the purposes of correcting a member's harmonic distortion, that member shall be responsible for a monthly maintenance fee. If corrections are necessary on the Corporation side of the PCC, the monthly maintenance fee is fifteen percent (15%)

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4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 31R Cancels Original 1<sup>st</sup> Revised Sheet No. 31R

#### **Electric Service Regulations**

Section IV

#### APPLICATION OF RULES (cont'd)

of the capitalized cost of the installed equipment that is needed as a result of the corrective actions undertaken by the Corporation. The monthly maintenance charge will not be less than \$25.

- 3. If a dispute occurs as to the determination of a member creating excessive harmonics that cause, or are deemed by the Corporation likely to cause, another member a harmonic related problem, the member and the Corporation will select a mutually acceptable third-party to determine the extent of the problem and a reasonable solution. The Corporation and the member will agree to be bound by the proposed solution from a third-party or governing agreement documents.
- C) Harmonics from more than one source if, in its investigation of a harmonics problem, the Corporation determines that two (2) or more member's harmonic generating loads are individually within IEEE 519-2014 limits, but the sum of the loads result in a VTHD greater than eight percent (8%) for PCC less than or equal to one (1) kV or the VTHD is greater than five percent (5%) for all other voltages, the Corporation may require each member to reduce his/her harmonic levels beyond the limits specified within the specifications listed above. However, in no event will any member be required to go below five percent (5%) TDD.
- D) Harmonics on a feeder if, in its investigation of harmonics on a feeder, the Corporation determines there are multiple sources contributing to the problem, the Corporation may install filters to bring the feeder VTHD within specified values and assess all nonfiltered services, based on connected kVA capacity, a proportional share of the installation and maintenance costs as outlined in section B, subsection 2, above.

The Corporation may, at its sole discretion, elect not to connect an unfiltered variable speed drive service.

#### NET METERING POLICY

#### APPLICABILITY

This rule applies to any member-generator that owns and operates a solar, wind, hydroelectric or biomass generating facility with a capacity of not more than twenty-five (25) kilowatts that is located on the member-generator's premises, is interconnected and operates in parallel with the Corporation's existing distribution facilities, and is intended primarily to offset part or all of the member-generator's own electrical requirements measured by the Corporation at a single metered facility located at the immediate interconnection point of the member-generator's facility. This schedule is offered in compliance with Wyoming Statute §§ 37-16-101 to 104.

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Michael E. Easley Brian J. Mills, Chief Executive Officer

4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 32R Cancels Original 1<sup>st</sup> Revised Sheet No. 32R

#### **Electric Service Regulations**

**Section IV** 

#### APPLICABILITY (cont'd)

This rule also applies to any member-generator that is a public entity such as school or state or local government entity having a solar, wind, hydroelectric or biomass generating facility with a capacity of not more than fifty (50) kilowatts and otherwise satisfies all requirements of this Net Metering Policy. Therefore, such a member-generator is not engaged in any resale of electric energy prohibited by the Corporation Rules and Regulations of Service under Section III, Direct Sales, and is not, by virtue of the nature of the relationship to the Corporation under this Net Metering Policy and pursuant to the determination of the Wyoming Public Service Commission in Docket No. 10014-125-CT-10, a "public utility" as defined by W.S. 37-1-101.

#### **AVAILABILITY**

This service shall be available to member-generators of the Corporation who agree to the requirements of this tariff and who sign an interconnection agreement for net metering service in a form generally in conformity with the agreement attached to this tariff per W.S. § 37-16-101(a)(ii) uses "customer-generator."

#### **DEFINITIONS**

- A) <u>Net Metering</u> Measuring the difference between the electricity supplied by the Corporation and the electricity generated by an eligible member-generator and fed back to the electric grid over the applicable billing period.
- B) <u>Member-generator</u> A user of a net metering system.
- C) <u>Net Metering System</u> a facility for the production of energy that:
  - 1) uses as its fuel either solar, wind, biomass, or hydropower;
  - 2) has a generating capacity of not more than twenty-five (25) kilowatts or not more than fifty (50) kilowatts for a public school or state or local government facility;
  - 3) is located on the member-generator's premises;
  - 4) operates in parallel with the Corporation's distribution facilities; and
  - 5) is intended primarily to offset part or all of the member-generator's requirements for electricity.

#### MINIMUM BILLING

The minimum monthly billing will be the Basic Charge in the applicable service schedule.

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Michael E. Easley Brian J. Mills, Chief Executive Officer

1<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 33R Cancels Original 1<sup>st</sup> Sheet No. 33R

#### **Electric Service Regulations**

**Section IV** 

#### **SERVICE CONDITIONS**

- A) If the monthly electricity supplied by the Corporation exceeds the monthly electricity generated by the member-generator, the member-generator shall be billed for the net energy supplied by the Corporation at the Energy Charge for the applicable service schedule in addition to a Minimum Billing (Basic Charge).
- B) If the electricity supplied by the member-generator exceeds that supplied by the Corporation, the member-generator shall be billed for the appropriate monthly charges and shall be credited for such net energy with the kilowatt-hour credit appearing on the bill for the following month.
- C) At the beginning of each calendar year, any remaining kilowatt-hour credit accumulated during the previous year shall be sold to the Corporation's approved avoided cost for the applicable calendar year. The kWh rate for the avoided cost shall be established by utilizing the Small Power Production (SPP) rate schedule. This rate is available on the tariff Rate Rider Sheet No. 4 on file at the Wyoming Public Service Commission. This rate shall remain in effect for the entire previous calendar year, unless the wholesale power supplier increases or decreases its rates to the Corporation, in which case the new rate will apply upon approval of the SPP tariff by the Wyoming Public Service Commission.
- D) The member is responsible for all costs associated with its facility; for all costs related to construction of facilities; for all costs related to any modifications to the facility; for all maintenance cost for the facility; for all costs associated with protecting metering from livestock; and for all costs related to any modifications to the facility that may be required by the Corporation for the purposes of safety and reliability.
- E) A net metering facility shall meet all applicable safety and performance standards established by the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL). The membergenerator shall, at his/her expense, provide lockable switching equipment capable of isolating the net metering facility from the Corporation's system. Such equipment shall be approved by the Corporation and shall be accessible by the Corporation at all times.
- F) The member-generator shall, at his/her expense, provide lockable switching equipment capable of isolating the net metering facility from the Corporation's system. Such equipment shall be approved by the Corporation and shall be accessible by the Corporation at all times.
- G) The Corporation shall not be liable directly or indirectly for permitting or continuing to allow an attachment of a net metering facility, or for the acts or omissions of the membergenerator that cause loss or injury, including death, to any third party.

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Michael E. Easley Brian J. Mills, Chief Executive Officer

1<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 34R Cancels Original 1st Revised Sheet No. 34R

#### **Electric Service Regulations**

Issued: March <del>12</del>31, 202<del>1</del>3

**Section IV** 

#### SERVICE CONDITIONS (cont'd)

- The Corporation shall have the right to disconnect the facility from the Corporation's H) supply at the disconnect switch, at its sole discretion, when necessary to maintain safe electrical operating conditions, or if the facility, at any time, adversely affects the operational integrity of the Corporation's service to the member-generators or other members.
- At the sole discretion of the Corporation, the Corporation may require the member-I) generator to read his meters at the facility on a monthly basis and forward the reading to the Corporations billing department.
- Rules Service under this Schedule is subject to the General Rules contained in the tariff J) of which this Schedule is a part, and to those prescribed by regulatory authorities.

Issued by Michael E. Easley Brian J. Mills, Chief Executive Officer

Effective: June 1, <del>2021</del>2023 Dkt. No. 10014-217229-CT-213

2<sup>nd</sup> Revised Sheet No. 21R Cancels 1<sup>st</sup> Revised Sheet No. 21R

#### **Electric Service Regulations**

Section IV

#### RULES AND REGULATIONS OF SERVICE Section IV ELECTRIC SERVICE REGULATIONS

#### MEMBER'S WIRING

All electric wiring and equipment installed on the member's side of the "point of delivery" shall be at the member's expense and shall be installed and maintained in accordance with the requirements of the National Electrical Code and with all requirements prescribed by governmental authority having jurisdiction thereof. The Corporation reserves the right to refuse to connect to any wiring or apparatus which does not meet these requirements, and the Corporation may without further notice discontinue service to any member when a defective condition of wiring or equipment located adjacent to, and which is clearly visible from the Corporation's metering point is discovered.

The Corporation will not be responsible for any loss, injury, or damage, which may result from defects in electric wiring or equipment belonging to the member.

The Corporation may refuse to install a meter when the member's wiring, which is located adjacent to and which is clearly visible from the Corporation's metering point, is defective or considered hazardous.

#### MEMBER'S RESPONSIBILITY

The member shall not permit anyone who is not an agent of the Corporation to remove or tamper with the Corporation's property or equipment.

Non-residential members shall provide coordinated sectionalizing equipment (i.e., fused or breaker disconnects, fused cutouts, reclosers or breakers), acceptable to the Corporation, immediately adjacent to the Corporation's point of delivery. The member's sectionalizing equipment is required to protect the system of the Corporation from faults, transients and overcurrents conditions that occur on the system of the member. This equipment may also provide a suitable means for the member to disconnect from the system of the Corporation. The sectionalizing equipment shall coordinate with the sectionalizing equipment on the Corporation's system. The member shall submit their recommended sectionalizing equipment, with Time Current Characteristic (TCC) information, to the Corporation for review and approval by the Corporation's engineering department.

When disturbances in the Corporation's electrical system are observed, the Corporation may investigate and determine the cause and corrective action. If it is determined the disturbance(s) are caused by the member's system or operation of that system, the member may be required to install additional equipment or correct existing equipment. Members may also be required to make adjustments in the operation of their systems to alleviate the observed disturbance(s).

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 22R Cancels 1<sup>st</sup> Revised Sheet No. 22R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR PROTECTION

The member shall install protective devices, i.e., motor saver equipment, to protect the member's three phase motors from single phasing during Corporation's system protection equipment operation and manual operation of line switching equipment by Corporation personnel.

#### SYSTEM BALANCE

When installing three phase equipment on the Corporation's system, the member shall take all necessary steps to maintain a system balance within three percent (3%) voltage, at the point of common coupling (PCC).

#### CHANGES IN MEMBER'S ELECTRICAL EQUIPMENT

In the event a member increases the size of the electrical equipment or otherwise adds to the service's electrical load, the member shall notify the Corporation so that the capacity of its system, transformer, meter, and other related equipment may be reviewed to determine if the equipment can accommodate the increase in load.

The member, when failing to advise the Corporation of changes in a timely fashion, assumes responsibility for any subsequent damage to the member's or the Corporation's property and equipment from the increased load or operational change.

#### **USE OF METER**

- (a) All meters furnished by the Corporation are the property of the Corporation and only Corporation-authorized personnel shall install, remove, test, adjust or conduct any repair of maintenance work thereon.
- (b) The Corporation shall install and maintain at its own expense all equipment necessary to regulate and measure the commodity delivered for billing.
- (c) Upon the Member's request, the Corporation may install and maintain additional metering at the Member's expense.
- (d) Any non-metered electric utility service shall be governed by tariff or special contract.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 23R Cancels 1st Revised Sheet No. 23R

#### **Electric Service Regulations**

Section IV

#### **METER LOCATION**

The meter may be installed on a pole, pedestal, or the service structure in compliance with NESC and NEC requirements, as applicable.

- Meters and associated devices shall be installed in a reasonable location accessible for reading, testing, inspection, removal, and where such activities will minimize interference and inconvenience to the member and Corporation. Member's wiring, communication equipment and/or other utilities should maintain workspace clearance of twelve (12) inches on each side of the metering equipment to avoid interference during maintenance and testing activities.
- (b) No meter shall be installed in any location where the meter or associated service lines may be unnecessarily exposed to damage.
- The member shall provide, without cost to the utility, a suitable location (c) accessible for metering and installation of equipment required to receive service.
- (d) Meters for member locations are not allowed inside buildings.
- (e) The Corporation has the right to clear its service conductors, connections and rights-of-way of any interfering tree, shrub, or other obstruction or to require the member to clear and remove the interfering obstruction at the member's expense. Failure to comply may, after required noticing, result in the discontinuation of a member's service.
- (f) All electric meters shall be located, designed, and installed in accordance with the National Electric Code (NEC), National Electric Safety Code (NESC), and the Corporation's approved standards as listed under "Construction and Engineering Standards" on the Corporation's website www.precorp.coop under "Member Center."

#### METER ACCURACY, MEASUREMENT AND STANDARDS

- Inaccurate, improper, or non-certified meters, including those for which accuracy (a) has not been established, shall not be placed in service, or allowed to remain in service. Meters that register upon zero load are considered inaccurate. New meters and serviced meters shall be in good repair and adjusted as closely as practicable to zero error. All meters shall conform to the standards of the American National Standards Institute (ANSI).
- All service meters shall clearly indicate the units of measurement for which the (b) member is charged. If the Corporation invoices members in a different unit of measurement than the service meter indicates, the conversion factor shall be stated on the member bill. Metering in the following units is required: kilo-watt hours (kWh), kilo-volt-amp hours (kVAh), demand in kilowatts (kW), kVARh, and Power Factor depending upon service requirements.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 24R Cancels 1<sup>st</sup> Revised Sheet No. 24R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION

In view of the Corporation's responsibility as an electric utility operating within the State of Wyoming and under the Rules of the Wyoming Public Service Commission, it is essential that uniform voltage, in accordance with ANSI C84.1, be maintained throughout the system to ensure proper operating power for all members.

To provide for adequate and proper controls against voltage fluctuations, the member shall, prior to installing any motor with a horsepower rating exceeding that stated in this policy, provide the Corporation with information required by the Corporation to assess the motors impact on the Corporation's system.

The Corporation reserves the right to require the member to install, at his/her own expense, reduced voltage starting equipment, or other accepted means of starting. The Corporation may require the addition of this equipment for new motor installations or on existing motor installations that the Corporation determines is creating undue voltage fluctuation or transients on the power lines.

Motor Starting Current Limitation Part A below outlines the parameters for operation of a single phase motor served by the system of the Corporation and the locked rotor limitations for motors up to 10HP. Motors operating outside these parameters or greater than 10HP may still be allowable, with review and acceptance by the Corporation.

Motor Starting Current Limitation Part B below outlines the parameters for operation of a three phase motor served by the system of the Corporation and the locked rotor limitations for motors up to 50HP. Motors operating outside these parameters or greater than 50HP may still be allowable, with review and acceptance by the Corporation.

All instances of a three phase motor connected to a single phase service (via a conversion device similar to Add-a-Phase or Roto-Phase), where the horsepower equivalent of the three phase pump on the single phase terminal of the converter is greater than 7.5HP, are required to be reviewed and approved by the Corporation's engineering department. For all sizes equal to or less than 7.5HP equivalent at the single phase terminals, the locked rotor amperage must comply with the table in Part A.

- A. Single phase motors size(s) permitted
  - Single phase, infrequently started motors, may be operated at 120 volts provided the motor's locked rotor current does not exceed 45 amperes.
  - 2) Single phase, frequently started motors may be operated at 120 volts provided their locked rotor current does not exceed 25 amperes.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 25R Cancels 1<sup>st</sup> Revised Sheet No. 25R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

- Single phase motors of 10 HP or less may be operated at 208 or 240 volts except that when the nameplate rating is higher than 5 HP, compensating starting equipment shall be installed to limit starting current. In locations where three phase service is not available, single phase motors larger than 10 HP may be operated only with the express written consent of the Corporation.
- 4) All single phase motors exceeding the limitations of paragraphs (1) and (2) above must be operated at 208 or 240 volts and the locked rotor currents must not exceed the following ampere size. Any requested motor starting currents in excess of the following table requires review and acceptance by the Corporation.

## MAXIMUM PERMISSIBLE LOCKED ROTOR CURRENT (Amperes at Motor Terminals)

HP	AMPS
1 and smaller	35
1.5	40
2	50
3	70
5	100
7.5	110
10	120

- B. Three phase motors size(s) permitted
  - In general, three phase motors of 10 HP or less nameplate rating operating at 208 or 240 volts may be equipped for across the line starting; motors larger than 10 HP may use across the line starting but require review of starting frequency, starting current, location, etc. and written approval from the Corporation prior to energization. Reduced voltage starting equipment, where required, will be furnished by the member.
  - 2) Three phase motors rated at 208, 220 or 440 volts must have locked rotor currents that do not exceed the following amperage (A) per phase, measured at the motor terminals. Any requested motor starting currents in excess of the following table requires review and acceptance by the Corporation.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 26R Cancels 1<sup>st</sup> Revised Sheet No. 26R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

MAXIMUM PERMISSIBLE LOCKED ROTOR CURRENT (Amperes at Motor Terminals)

#### **Motor Voltage Rating**

<u>Horsepower</u>	<u>208</u>	<u>220</u>	<u>440</u>
5 and below	92	87	44
7.5	122	115	58
10	149	141	71
15	208	197	99
20	266	251	126
25	322	304	152
30	381	360	180
35	392	370	185
40	402	380	190
50	423	400	200

- 3) For motors above 50 HP the Corporation will review the service location and determine the permissible locked rotor current for the installation.
- 4) Current values listed in these tables are those corresponding to the rated nameplate voltages of the motors. Tests or specified current values for other voltages shall be adjusted to the rated voltage of the motor.
- When a single piece of motor driving apparatus or equipment has more than one motor starting simultaneously, the sum of the maximum starting currents and the sum of the horsepower rating of those motors starting simultaneously shall be used in applying the above tables. For test purposes, the starting current of motorized equipment may be considered at seventy-five percent (75%) of the locked rotor current.
- C) Determination of locked rotor currents:
  - 1) Locked rotor currents are obtainable from motor manufacturers or may be calculated from the nameplate data on the motor as follows:
    - a. Obtain HP, voltage and NEMA Code Letter Rating from the motor nameplate.
    - b. Obtain the kVA per horsepower with locked rotor for the motor by referring to the following tabulation taken from Paragraph 94304 of the *National Electrical Code* and selecting the value that corresponds to the Code Letter Rating of the motor.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 27R Cancels 1<sup>st</sup> Revised Sheet No. 27R

#### **Electric Service Regulations**

**Section IV** 

#### MOTOR STARTING CURRENT LIMITATION (cont'd)

c. Calculate locked rotor amperes by the following formulas:

**Single Phase Motor**- locked rotor amps =

1,000 x locked rotor kVA per HP from Table x HP rating of motor Voltage Rating of Motor

<u>Three Phase Motor</u> - locked rotor amps =

1,000 x locked rotor kVA per HP from Table x HP rating of motor

1.73 x voltage rating of motor

d. The locked rotor currents specified in the above tables are for average conditions only. In areas where frequent starting of motors is found to impact the electrical service to other members, supplied from the same secondary or primary line, the Corporation reserves the right to limit locked rotor currents to values smaller than those described in Motor Starting Current Limitation Part A, Part B or this section.

Code Letter	kVA per HP with Locked Rotor
A	0 3.14
В	3.15 3.54
C	3.55 3.99
D	4.0 4.49
	4.5 4.99
	5.0 5.59
G	5.6 6.29
Н	6.3 7.09
J	7.1 7.99
K	8.0 8.99
	9.0 9.99
N	11.2 12.49
P	12.5 13.99
	14.0 15.99
U	
	22.4 and up

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 28R Cancels 1<sup>st</sup> Revised Sheet No. 28R

#### **Electric Service Regulations**

**Section IV** 

#### HARMONIC DISTORTION LIMITATION

All members within the service area of the Corporation who take delivery of electric service from, or generate electricity onto, the Corporation's system, and who create excessive harmonics on the Corporation's system, will be required to comply with this Rule and Regulation.

#### **DEFINITIONS**

**Harmonics** – In 60-hertz electric power systems, a harmonic is a sinusoidal component of the 60-hertz fundamental wave having a frequency that is an integral multiple of the fundamental frequency.

Excessive Harmonics –In this tariff, Excessive Harmonics shall mean levels of current or voltage harmonic distortion at the point of common coupling between the Corporation and the member outside the levels recommended in the Institute of Electrical and Electronics Engineers (IEEE) Standard 519-2014 (Revision of IEEE Standard 519-1992) Recommended Practices and Requirements for Harmonic Control in Electric Power Systems and these Rules and Regulations.

Maximum Demand Load Current (I<sub>L</sub>) – This current value is established at the point of common coupling and should be taken as the sum of the currents corresponding to the maximum metered demand during each of the twelve (12) previous months divided by twelve (12). In the event that twelve (12) previous months of metered demand data is not available, the Corporation's engineering department will determine the most prudent value to utilize for the maximum demand load current based on available demand information, field measurements, and an understanding of the member's load.

**Short Circuit Current** (**I**sc) – This current value is provided by the Corporation at the Point of Common Coupling (PCC).

**Point of Common Coupling (PCC)** – The PCC or point of interconnect between the Corporation's electrical system and the member's facilities where delivery of electrical service is taken by the member. This point is typically at the electrical meter terminals or on the low voltage side of the transformer but may be dependent upon the type and design of the electrical service provided.

**Short-Circuit Ratio** – At a particular location, the ratio of the available short-circuit current (in amperes), as determined by the Corporation's engineering department, at the PCC to the load current (in amperes.)

**Current Total Harmonic Distortion (THD)** – The ratio of the root mean square of harmonic content, considering harmonic components up to the fiftieth  $(50^{th})$  order and specifically excluding inter-harmonics, expressed as a percent of the current fundamental. Harmonic components of order greater than fifty (50) may be included when necessary.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 29R Cancels 1<sup>st</sup> Revised Sheet No. 29R

#### **Electric Service Regulations**

Section IV

#### DEFINITIONS (cont'd)

**Voltage Total Harmonic Distortion (VTHD)** – The ratio of the root mean square of the harmonic content, considering harmonic components up to the fiftieth (50th) order and specifically excluding inter-harmonics, expressed as a percent of the voltage fundamental. Harmonic components of order greater than fifty (50) may be included when necessary.

**Total Demand Distortion (TDD)** – The ratio of the root mean square of the harmonic content, considering harmonic components up to the fiftieth (50th) order and specifically excluding interharmonics, expressed as a percent of the average peak demand current. Harmonic components of order greater than fifty (50) may be included when necessary.

**Member Harmonic Distortion Limits** – The following limits also define excess harmonic limitations:

- a) Daily ninety-ninth percentile (99th%), very short time (three (3) seconds) harmonic currents should be less than two (2) times the values in the table below.
- b) Weekly ninety-ninth percentile (99th%), short time (ten (10) minutes) harmonic currents should be less than one and one-half (1.5) times the values in the table below.
- c) Weekly ninety-fifth percentile (95th%), short time (ten (10) minutes) harmonic currents should be less than the values in the table below.

### **Current Distortion Limits for General Distribution Systems**

Rated 120 V through 69 kV

Maximum harmonic current distortion in percent of $I_L$							
Individual harmonic order (odd harmonics) <sup>a, b</sup>							
$I_{sc}/I_L$	$3 \le h < 11$	$11 \le h < 17$	$17 \le h < 23$	$23 \le h < 35$	$35 \le h \le 50$	TDD	
< 20°	4.0	2.0	1.5	0.6	0.3	5.0	
20 < 50	7.0	3.5	2.5	1.0	0.5	8.0	
50 < 100	10.0	4.5	4.0	1.5	0.7	12.0	
100 < 1000	12.0	5.5	5.0	2.0	1.0	15.0	
> 1000	15.0	7.5	6.0	2.5	1.4	20.0	

<sup>&</sup>lt;sup>a</sup>Even harmonics are limited to twenty-five percent (25%) of the odd harmonic limits above.

Issued by Michael E. Easley, Chief Executive Officer

<sup>&</sup>lt;sup>b</sup>Current distortions that result in a direct current offset, e.g., half-wave converters are not allowed.

<sup>&</sup>lt;sup>c</sup>All power generation equipment is limited to these values of current distortion, regardless of actual I<sub>sc</sub>/I<sub>L</sub>.

2<sup>nd</sup> Revised Sheet No. 30R Cancels 1<sup>st</sup> Revised Sheet No. 30R

#### **Electric Service Regulations**

Section IV

#### DEFINITIONS (cont'd)

If the measured TDD or individual harmonic order values are greater than allowed, as stated above, the member shall be required to take such corrective measures as necessary, including the installation of active or passive filtering, to guarantee compliance with the described values.

Failure to comply with the direct current offset conditions may result in a discontinuation of the member's service per the Corporation's Rules and Regulations Section III – Discontinuation of Service to Members.

#### APPLICATION OF RULES

- A) Applicable Standards in addressing harmonics problems, the Corporation and the member shall implement, to the extent reasonably practicable, and in conformance with prudent operation, the practices outlined in IEEE Standard 519-2014, to the extent not inconsistent with law, including state and federal statutes, orders, regulations, and applicable municipal regulations.
- B) Investigation and Corrective Action the Corporation may investigate and determine the cause of the excessive harmonics. If the Corporation determines that the member has created excessive harmonics that cause or are reasonably likely to cause another member to receive unsafe, unreliable, or inadequate electric service, the Corporation will provide written notice to the member creating the excessive harmonics. The notice shall state that the Corporation has determined that the member has created an excessive harmonics condition and that the Corporation has explained the source and consequences of the harmonic problem. The notice will give the member two (2) options to cure the problem:
  - 1. The member may elect to cure the problem on his/her side of the PCC, at his/her cost, but the remedy must occur within six (6) calendar weeks of notification and will be specified in the notice. If the cost of the harmonic's mitigation project exceeds \$10,000, the Corporation and the member may establish a mutually acceptable time period to correct the harmonics violation. If the harmonics violation creates a safety issue for the member causing the harmonics violation or any potentially affected members, remediation will need to be expedited or discontinuation of power may be immediate.
    - 2. If the member does not cure the problem after being notified, and within the allotted time, the Corporation will cure the problem on its system and assess all charges, including overheads, to the member. For facilities installed by the Corporation for the purpose of correcting a member's harmonic distortion, that member shall be responsible for a monthly maintenance fee. If corrections are necessary on the Corporation side of the PCC, the monthly maintenance fee is fifteen percent (15%)

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 31R Cancels 1<sup>st</sup> Revised Sheet No. 31R

#### **Electric Service Regulations**

**Section IV** 

#### APPLICATION OF RULES (cont'd)

of the capitalized cost of the installed equipment that is needed as a result of the corrective actions undertaken by the Corporation. The monthly maintenance charge will not be less than \$25.

- 3. If a dispute occurs as to the determination of a member creating excessive harmonics that cause, or are deemed by the Corporation likely to cause, another member a harmonic related problem, the member and the Corporation will select a mutually acceptable third-party to determine the extent of the problem and a reasonable solution. The Corporation and the member will agree to be bound by the proposed solution from a third-party or governing agreement documents.
- C) Harmonics from more than one source if, in its investigation of a harmonics problem, the Corporation determines that two (2) or more member's harmonic generating loads are individually within IEEE 519-2014 limits, but the sum of the loads result in a VTHD greater than eight percent (8%) for PCC less than or equal to one (1) kV or the VTHD is greater than five percent (5%) for all other voltages, the Corporation may require each member to reduce his/her harmonic levels beyond the limits specified within the specifications listed above. However, in no event will any member be required to go below five percent (5%) TDD.
- D) Harmonics on a feeder if, in its investigation of harmonics on a feeder, the Corporation determines there are multiple sources contributing to the problem, the Corporation may install filters to bring the feeder VTHD within specified values and assess all nonfiltered services, based on connected kVA capacity, a proportional share of the installation and maintenance costs as outlined in section B, subsection 2, above.

The Corporation may, at its sole discretion, elect not to connect an unfiltered variable speed drive service.

#### NET METERING POLICY

#### **APPLICABILITY**

This rule applies to any member-generator that owns and operates a solar, wind, hydroelectric or biomass generating facility with a capacity of not more than twenty-five (25) kilowatts that is located on the member-generator's premises, is interconnected and operates in parallel with the Corporation's existing distribution facilities, and is intended primarily to offset part or all of the member-generator's own electrical requirements measured by the Corporation at a single metered facility located at the immediate interconnection point of the member-generator's facility. This schedule is offered in compliance with Wyoming Statute §§ 37-16-101 to 104.

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2<sup>nd</sup> Revised Sheet No. 32R Cancels 1<sup>st</sup> Revised Sheet No. 32R

#### **Electric Service Regulations**

**Section IV** 

#### APPLICABILITY (cont'd)

This rule also applies to any member-generator that is a public entity such as school or state or local government entity having a solar, wind, hydroelectric or biomass generating facility with a capacity of not more than fifty (50) kilowatts and otherwise satisfies all requirements of this Net Metering Policy. Therefore, such a member-generator is not engaged in any resale of electric energy prohibited by the Corporation Rules and Regulations of Service under Section III, Direct Sales, and is not, by virtue of the nature of the relationship to the Corporation under this Net Metering Policy and pursuant to the determination of the Wyoming Public Service Commission in Docket No. 10014-125-CT-10, a "public utility" as defined by W.S. 37-1-101.

#### AVAILABILITY

This service shall be available to member-generators of the Corporation who agree to the requirements of this tariff and who sign an interconnection agreement for net metering service in a form generally in conformity with the agreement attached to this tariff per W.S. § 37-16-101(a)(ii) uses "customer-generator."

#### **DEFINITIONS**

- A) <u>Net Metering</u> Measuring the difference between the electricity supplied by the Corporation and the electricity generated by an eligible member-generator and fed back to the electric grid over the applicable billing period.
- B) <u>Member-generator</u> A user of a net metering system.
- C) <u>Net Metering System</u> a facility for the production of energy that:
  - 1) uses as its fuel either solar, wind, biomass, or hydropower;
  - 2) has a generating capacity of not more than twenty-five (25) kilowatts or not more than fifty (50) kilowatts for a public school or state or local government facility;
  - 3) is located on the member-generator's premises;
  - 4) operates in parallel with the Corporation's distribution facilities; and
  - 5) is intended primarily to offset part or all of the member-generator's requirements for electricity.

#### MINIMUM BILLING

The minimum monthly billing will be the Basic Charge in the applicable service schedule.

Issued by Michael E. Easley, Chief Executive Officer

2<sup>nd</sup> Revised Sheet No. 33R Cancels 1<sup>st</sup> Sheet No. 33R

#### **Electric Service Regulations**

**Section IV** 

#### **SERVICE CONDITIONS**

- A) If the monthly electricity supplied by the Corporation exceeds the monthly electricity generated by the member-generator, the member-generator shall be billed for the net energy supplied by the Corporation at the Energy Charge for the applicable service schedule in addition to a Minimum Billing (Basic Charge).
- B) If the electricity supplied by the member-generator exceeds that supplied by the Corporation, the member-generator shall be billed for the appropriate monthly charges and shall be credited for such net energy with the kilowatt-hour credit appearing on the bill for the following month.
- C) At the beginning of each calendar year, any remaining kilowatt-hour credit accumulated during the previous year shall be sold to the Corporation's approved avoided cost for the applicable calendar year. The kWh rate for the avoided cost shall be established by utilizing the Small Power Production (SPP) rate schedule. This rate is available on the tariff Rate Rider Sheet No. 4 on file at the Wyoming Public Service Commission. This rate shall remain in effect for the entire previous calendar year, unless the wholesale power supplier increases or decreases its rates to the Corporation, in which case the new rate will apply upon approval of the SPP tariff by the Wyoming Public Service Commission.
- D) The member is responsible for all costs associated with its facility; for all costs related to construction of facilities; for all costs related to any modifications to the facility; for all maintenance cost for the facility; for all costs associated with protecting metering from livestock; and for all costs related to any modifications to the facility that may be required by the Corporation for the purposes of safety and reliability.
- E) A net metering facility shall meet all applicable safety and performance standards established by the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL). The membergenerator shall, at his/her expense, provide lockable switching equipment capable of isolating the net metering facility from the Corporation's system. Such equipment shall be approved by the Corporation and shall be accessible by the Corporation at all times.
- F) The member-generator shall, at his/her expense, provide lockable switching equipment capable of isolating the net metering facility from the Corporation's system. Such equipment shall be approved by the Corporation and shall be accessible by the Corporation at all times.
- G) The Corporation shall not be liable directly or indirectly for permitting or continuing to allow an attachment of a net metering facility, or for the acts or omissions of the membergenerator that cause loss or injury, including death, to any third party.

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2<sup>nd</sup> Revised Sheet No. 34R Cancels 1<sup>st</sup> Revised Sheet No. 34R

#### **Electric Service Regulations**

**Section IV** 

## SERVICE CONDITIONS (cont'd)

- H) The Corporation shall have the right to disconnect the facility from the Corporation's supply at the disconnect switch, at its sole discretion, when necessary to maintain safe electrical operating conditions, or if the facility, at any time, adversely affects the operational integrity of the Corporation's service to the member-generators or other members.
- I) At the sole discretion of the Corporation, the Corporation may require the membergenerator to read his meters at the facility on a monthly basis and forward the reading to the Corporations billing department.
- J) <u>Rules</u> Service under this Schedule is subject to the General Rules contained in the tariff of which this Schedule is a part, and to those prescribed by regulatory authorities.

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**Line Extension Policy** 

Section V

## RULES AND REGULATIONS OF SERVICE Section V LINE EXTENSION POLICY

#### ELECTRIC SERVICE EXTENSION POLICY

The Line Extension Policy applies to line extensions serving all rate classes. Line extensions are characterized as either Industrial or Non-Industrial as specified in Section VIII Line Equalization Policy.

#### I. TEMPORARY SERVICE

When service is requested to a point of delivery that will require the installation of any facility that will serve a load of a temporary nature or a load where continued use for a period equal to the contract term cannot be assured, the member requesting the service will be required to pay the Corporation for the estimated cost to install and remove the facilities plus the cost of unsalvageable materials.

#### PERMANENT SERVICE

<del>II.</del>

- A. Permanent service shall include service to loads where continued use can be assured with contracts for service for a term of not less than the minimum term for the type of service as given in Paragraph B.
- B. The minimum term of metered service to be specified within the applicable service agreement is given in Table I by tariff schedule. The minimum term of service for Heat Rate Credit meters is given in Table II.

Tariff Schedule	Minimum Term (yr.)					
A, RTOU, I (single-phase), GS	\GS-TOU (singlephase)1					
I (three-phase), GS\GS-TOU (t	hreephase)3					
All others	5					
Table I – Minimum Term of Metered Ser	Table I – Minimum Term of Metered Service Agreements for Permanent Service					
Tariff Schedule	Minimum Term (yr.)					
Self-Contained Meter (single-pl						
Instrument Rated Meter (single-	phase or threephase)3					

Table II – Minimum Term of Service Agreements for Heat Rate Metering

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Michael E. Easley Brian J. Mills, Chief Executive Officer

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#### **Line Extension Policy**

Section V

#### PERMANENT SERVICE (Cont'd)

C. The cost of installation paid by the member shall be in the form of an advance payment for the total estimated project costs and any aid to line equalization per Section VIII Line Equalization Policy, defined as the sum of the engineer's estimate plus a ten percent (10%) contingency, made to the Corporation prior to the start of the project or as described herein. Project costs include the costs required for primary and/or secondary line extensions, necessary system improvements, special equipment particular to the service, and other charges or costs, as necessary. Where applicable, the engineer's estimate shall include the deduction of any Corporation supplied funds.

#### III. INDUSTRIAL LINE EXTENSION

The Industrial Line Extension methodology is applicable to all line extensions for services with industrial loads as defined in Section VIII Line Equalization Policy.

- A. The Corporation will not release the job to construction until full payment is received.
  - 1. Industrial members whose estimated project costs exceed \$100,000 will provide the Corporation thirty percent (30%) of the estimated project costs at the time the service is requested and prior to final design. The remaining seventy percent (70%) will be invoiced at the time of execution of the electric service agreement and are required to be paid prior to the start of construction.
  - 2. Industrial members whose estimated project costs are equal to or less than \$100,000 will provide the Corporation one hundred percent (-100%) of the estimated project costs upon completion of design work and prior to the start of the acquisition of land rights or construction.
- B. In the event the line extension is canceled for any reason, the Corporation will retain sufficient funds to defray all costs incurred before the time of cancellation. The Corporation will provide an accounting of such costs to the Industrial member and refund any remaining amounts.
- C. Each Industrial member will receive a final cost report after the project closeout has been completed. This report will compare the actual costs of construction to the original estimated project costs. If the actual construction costs exceed the amount of contribution received on the project, the Industrial member will be invoiced for the additional required contribution. If the Industrial member contribution exceeds the actual costs of construction, the excess contribution will be refunded to the Industrial member.

#### D. CBM Retirements

1. CBM members who took service under the original CBM Line Extension Policy effective May 10, 2001, provided funding for the retirement of CBM line extension projects.

Issued by

Michael E. Easley Brian J. Mills, Chief Executive Officer

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2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 37R Cancels Original 1<sup>st</sup> Revised Sheet No. 37R

**Line Extension Policy** 

Section V

#### INDUSTRIAL LINE EXTENSION (Cont'd)

- 2. Retirement funds previously collected and deposited into the Cost of Retirement Fund will be utilized to cover the costs of retirement (less any salvage value on materials) and associated expenses.
- 3. An annual review process will continue to track the fund for retirement of CBM facilities and determine if available funds are sufficient to defray costs associated with CBM line extension retirements.
- 4. Ownership interest in the Cost of Retirement Fund shall be <u>assignable assigned</u> in the books of the Corporation pursuant to written instructions from the assignor.
- 5. The Corporation will file an annual report with the Wyoming Public Service Commission and its CBM members that provides information on the Cost of Retirement Fund balance, withdrawals from the fund, and interest earned on the fund.

#### IV. NON-INDUSTRIAL LINE EXTENSION

The non-industrial line extension will be utilized for services and extensions that serve loads not defined as industrial per Section VIII Line Equalization Policy.

- A. For non-industrial members taking permanent service under tariff Rate Schedule A (Residential only), R-TOU, GS, and GS-TOU when a new service is installed, the Corporation will offer up to \$1,500 standard offering. This standard offering does not apply to new services that are for the purpose of serving seasonal loads or to service points that are relocating existing loads. This standard offering is the portion of the extension that the Corporation may provide, or allow, without cost to the applicant. The remaining costs of installation and any associated line equalization shall be paid by the member as aid to construction pursuant to the terms within this policy. All distribution transformers and metering equipment shall be furnished by the Corporation at no charge to the member.
- B. In the event the line extension is canceled for any reason, the Corporation will retain sufficient funds, or will invoice for costs if the line extension is to be financed, to defray all costs incurred before the time of cancellation.
- B.C. Each member will receive a final cost report after the project closeout has been completed. This report will compare the actual costs of construction to the total estimated project costs. Balances owed under the terms of a line extension contract will be reduced if actual costs are less than the total estimated project costs. Advance payments will be refunded if actual costs are less than total estimated project costs.

Issued by

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2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 38R Cancels Original 1<sup>st</sup> Revised Sheet No. 38R

#### **Line Extension Policy**

Section V

#### NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- 1. Whenever a project to provide service to a member exceeds \$50,000, the member shall advance to the Corporation prior to construction the total estimated installation costs. Upon completion of the project and final cost analysis, any necessary adjustments required to "true-up" the estimated to actual costs will be identified and the portion of the advance amount not used will be refunded or additional monies collected to recover actual costs.
- C.D. A Line Extension Agreement shall be signed for all line extensions financed under the Corporation's Line Extension Policy per a standard amortization schedule. Line extensions with a total estimated project cost of less than or equal to \$3,000 shall be financed for a maximum term of thirty-six (36) months. Line extensions with a total estimated project cost of less than or equal to \$6,000 but greater than \$3,000 shall be financed for a maximum term of sixty (60) months. Line extensions with a total estimated project cost of less than or equal to \$10,000 but greater than \$6,000 shall be financed for a maximum term of eighty-four (84) months. Line extensions with a total estimated project cost of less than or equal to \$50,000 but greater than \$10,000 shall be financed for a maximum term of one—hundred twenty (120) months. Member's financing more than \$6,000 shall provide a security interest to the Corporation in the property for which the service is being provided. The security interest will be released upon satisfaction of the terms of the Line Extension Agreement. Members may use a combination of advance payment and execution of the Line Extension Agreement to manage payment amounts and terms for the maximum terms previously stated.
  - 1. The interest rate used to calculate payments under the Line Extension Agreement shall be fixed for the entire contract period. This interest rate is set at the time costs are calculated on the service agreement and is one and one-half percent (1.5%) above the effective interest rate. The effective interest rate is updated monthly and is the rate in effect for the equivalent term treasury as published by RUS. Members may pre-pay on their Line Extension Agreement, however pre-payment shall not relieve the member from any obligations incurred under the terms of the contract for service, and any pre-payment will be applied as a principal pre-payment effectively shortening the term of the loan.
  - 2. Financing of line extensions is only available and offered to members with credit in good standing with the Corporation.

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4<sup>st</sup>-2<sup>nd</sup> Revised Sheet No. 39R Cancels Original 1<sup>st</sup> Revised Sheet No. 39R

**Line Extension Policy** 

Section V

#### NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- <u>D.E.</u> Established, platted subdivisions (other than mobile home courts) located within the service area of the Corporation, will be served under the following conditions:
  - 1. A non-refundable design fee of \$1,500 + \$25.00 per lot will be assessed with the application prior to design and estimating of the electrical facilities needed to serve the development.
  - 2. One hundred percent (100%) of the cost of all primary feeders, sectionalizing pedestals, transformer pads and secondary lines to the lot line of each lot shall be subject to an advance from the developer, plus ten percent (10%) contingency. Funds for the installation of the facilities shall be advanced to the Corporation before the commencement of construction based upon the estimate. The developer will be responsible for any and all costs incurred that are greater than the estimated amount, and the Corporation will refund any collected monies that were greater than the final costs upon reconciliation and close-out of the project.
  - 3. The platted subdivision will identify the easement corridors of sufficient width that allow for power line extension to each lot identified as a lot eligible for future electrical service.
  - 4. Prior to construction of electric facilities, the developer shall notify the Corporation, in writing, that the areas, where electric facilities are to be installed, are at final grade. Any subsequent change in grades that require a change in the electric facilities will result in a charge to the developer for such changes in facilities.
  - 5. All primary feeders and transformer pads will usually be installed at one time; however, this construction may be in segments by mutual agreement between the developer and the Corporation.
  - 6. All facilities will be installed by the Corporation or by Corporation contractors.
  - 7. If a joint trench use agreement is required, the developer will prepay all the estimated additional costs required of the Corporation as it pertains to the modified installation process incurred by joint use trenching and/or coordination with other utilities.
- E.F. Mobile home courts established within the service area of the Corporation shall be served under the following conditions:
  - 1. Service to permanent dwelling mobile home courts will be supplied to preestablished metering points, one meter (1) per mobile home space.
  - 2. The cost of all installations shall be at the expense of the court owner and includes the installed cost of all wire, meter boxes and associated facilities.

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2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 40R Cancels Original 1<sup>st</sup> Revised Sheet No. 40R

**Line Extension Policy** 

Section V

## NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- 3. All meters will be supplied by the Corporation and shall be installed and removed only by Corporation personnel. All wiring from the metering point to the mobile home shall be the responsibility of the court owner or mobile home-owner.
- 4. Individual meters are subject to the Corporation's individual service contracts.
- 5. The Corporation shall not provide mastered meter service to mobile home courts when such installation will be used for resale of electric service to tenants.
- 6. The court owner shall advance one hundred percent (100%) of the construction funds before facilities are installed by the Corporation or Corporation contractors.
- 7. All facilities installed by the Corporation remain the property of the Corporation, including the right to maintain and alter, as necessary.
- 8. Before construction of electric facilities, the court owner shall notify the Corporation, in writing, that areas where electric facilities are to be installed are at final grade. Any subsequent change in grades that require a change in electric facilities will result in a charge to the court for such changes in facilities.
- 9. If a joint trench use agreement is required, the developer will prepay all the estimated additional costs required of the Corporation as it pertains to a modified installation process incurred by joint use trenching and/or coordination with other utilities.

#### V. SPECIAL CONDITIONS

Whenever the Corporation anticipates or determines that special or abnormal risks or conditions may be involved in providing service to a specified load or customer, the Corporation may require special terms, contract conditions, or bonds of such a nature as it may consider reasonably necessary for protection from financial loss in connection with the special conditions or risks involved.

- A. Any special terms, contract conditions, or bonds shall be in place before the ordering of materials or commencement of construction. Such special terms, contract conditions, or bonds shall not eliminate the need for extension charges as stated in paragraph II Permanent Service above. Special contracts for extension of the Corporation's distribution system to supply commercial service, industrial service or service of indeterminate character shall be filed with the Commission.
- B. Members may contract the construction of their own line extensions provided the following conditions are met:
  - 1. Line extension complies with the Corporation's specifications.

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Michael E. Easley Brian J. Mills, Chief Executive Officer

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## **Line Extension Policy**

Section V

- 2. Line extensions will be warranted by the member or its contractor against defects in materials and workmanship for a period of one (1) year from date of acceptance and energization by the Corporation.
- 3. Operations and maintenance responsibilities will transfer to the Corporation at the time of project acceptance and energization.

## SPECIAL CONDITIONS (Cont'd)

- 4. Ownership of facilities will transfer upon the member providing a release of lien for materials and labor, a completed bill of sale, an easement in the form that is acceptable to the Corporation, and acceptance and energization of the line extension.
- 5. Work is performed by contractors on the Corporation's Qualified Bidder's List.

## VI. GUARANTEES AND/OR CONTRIBUTION SHARING

Cost sharing for line extensions is governed by Section VIII Line Equalization, of these Rules and Regulations.

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Michael E. Easley Brian J. Mills, Chief Executive Officer

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**Line Extension Policy** 

Section V

## RULES AND REGULATIONS OF SERVICE Section V LINE EXTENSION POLICY

#### ELECTRIC SERVICE EXTENSION POLICY

The Line Extension Policy applies to line extensions serving all rate classes. Line extensions are characterized as either Industrial or Non-Industrial as specified in Section VIII Line Equalization Policy.

#### I. TEMPORARY SERVICE

When service is requested to a point of delivery that will require the installation of any facility that will serve a load of a temporary nature or a load where continued use for a period equal to the contract term cannot be assured, the member requesting the service will be required to pay the Corporation for the estimated cost to install and remove the facilities plus the cost of unsalvageable materials.

#### II. PERMANENT SERVICE

- A. Permanent service shall include service to loads where continued use can be assured with contracts for service for a term of not less than the minimum term for the type of service as given in Paragraph B.
- B. The minimum term of metered service to be specified within the applicable service agreement is given in Table I by tariff schedule. The minimum term of service for Heat Rate Credit meters is given in Table II.

Tariff Schedule	Minimum Term (yr.)
A, RTOU, I (single-phase), G	S\GS-TOU (single phase)1
I (three-phase), GS\GS-TOU (	three phase)3
All others	5
Table I – Minimum Term of Metered Ser	vice Agreements for Permanent Service
Tariff Schedule	Minimum Term (yr.)
Self-Contained Meter (single-p	hase or three phase)1
Instrument Rated Meter (single	-phase or three phase)3
Table II – Minimum Term of Service	Agreements for Heat Rate Metering

Issued by Brian J. Mills, Chief Executive Officer

Issued: March 31, 2023 Effective: June 1, 2023

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#### **Line Extension Policy**

Section V

#### PERMANENT SERVICE (Cont'd)

C. The cost of installation paid by the member shall be in the form of an advance payment for the total estimated project costs and any aid to line equalization per Section VIII Line Equalization Policy, defined as the sum of the engineer's estimate plus a ten percent (10%) contingency, made to the Corporation prior to the start of the project or as described herein. Project costs include the costs required for primary and/or secondary line extensions, necessary system improvements, special equipment particular to the service, and other charges or costs, as necessary. Where applicable, the engineer's estimate shall include the deduction of any Corporation supplied funds.

#### III. INDUSTRIAL LINE EXTENSION

The Industrial Line Extension methodology is applicable to all line extensions for services with industrial loads as defined in Section VIII Line Equalization Policy.

- A. The Corporation will not release the job to construction until full payment is received.
  - 1. Industrial members whose estimated project costs exceed \$100,000 will provide the Corporation thirty percent (30%) of the estimated project costs at the time the service is requested and prior to final design. The remaining seventy percent (70%) will be invoiced at the time of execution of the electric service agreement and are required to be paid prior to the start of construction.
  - 2. Industrial members whose estimated project costs are equal to or less than \$100,000 will provide the Corporation one hundred percent (100%) of the estimated project costs upon completion of design work and prior to the start of the acquisition of land rights or construction.
- B. In the event the line extension is canceled for any reason, the Corporation will retain sufficient funds to defray all costs incurred before the time of cancellation. The Corporation will provide an accounting of such costs to the Industrial member and refund any remaining amounts.
- C. Each Industrial member will receive a final cost report after the project closeout has been completed. This report will compare the actual costs of construction to the original estimated project costs. If the actual construction costs exceed the amount of contribution received on the project, the Industrial member will be invoiced for the additional required contribution. If the Industrial member contribution exceeds the actual costs of construction, the excess contribution will be refunded to the Industrial member.

#### D. CBM Retirements

1. CBM members who took service under the original CBM Line Extension Policy effective May 10, 2001, provided funding for the retirement of CBM line extension projects.

Issued: March 31, 2023 Effective: June 1, 2023

2<sup>nd</sup> Revised Sheet No. 37R Cancels 1<sup>st</sup> Revised Sheet No. 37R

## **Line Extension Policy**

**Section V** 

#### INDUSTRIAL LINE EXTENSION (Cont'd)

- 2. Retirement funds previously collected and deposited into the Cost of Retirement Fund will be utilized to cover the costs of retirement (less any salvage value on materials) and associated expenses.
- 3. An annual review process will continue to track the fund for retirement of CBM facilities and determine if available funds are sufficient to defray costs associated with CBM line extension retirements.
- 4. Ownership interest in the Cost of Retirement Fund shall be assigned in the books of the Corporation pursuant to written instructions from the assignor.
- 5. The Corporation will file an annual report with the Wyoming Public Service Commission and its CBM members that provides information on the Cost of Retirement Fund balance, withdrawals from the fund, and interest earned on the fund.

#### IV. NON-INDUSTRIAL LINE EXTENSION

The non-industrial line extension will be utilized for services and extensions that serve loads not defined as industrial per Section VIII Line Equalization Policy.

- A. For non-industrial members taking permanent service under tariff Rate Schedule A (Residential only), R-TOU, GS, and GS-TOU when a new service is installed, the Corporation will offer up to \$1,500 standard offering. This standard offering does not apply to new services that are for the purpose of serving seasonal loads or to service points that are relocating existing loads. This standard offering is the portion of the extension that the Corporation may provide, or allow, without cost to the applicant. The remaining costs of installation and any associated line equalization shall be paid by the member as aid to construction pursuant to the terms within this policy. All distribution transformers and metering equipment shall be furnished by the Corporation at no charge to the member.
- B. In the event the line extension is canceled for any reason, the Corporation will retain sufficient funds, or will invoice for costs if the line extension is to be financed, to defray all costs incurred before the time of cancellation.
- C. Each member will receive a final cost report after the project closeout has been completed. This report will compare the actual costs of construction to the total estimated project costs. Balances owed under the terms of a line extension contract will be reduced if actual costs are less than the total estimated project costs. Advance payments will be refunded if actual costs are less than total estimated project costs.

Issued by Brian J. Mills, Chief Executive Officer

Issued: March 31, 2023 Effective: June 1, 2023

2<sup>nd</sup> Revised Sheet No. 38R Cancels 1st Revised Sheet No. 38R

## **Line Extension Policy**

Section V

#### NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- 1. Whenever a project to provide service to a member exceeds \$50,000, the member shall advance to the Corporation prior to construction the total estimated installation costs. Upon completion of the project and final cost analysis, any necessary adjustments required to "true-up" the estimated to actual costs will be identified and the portion of the advance amount not used will be refunded or additional monies collected to recover actual costs.
- D. A Line Extension Agreement shall be signed for all line extensions financed under the Corporation's Line Extension Policy per a standard amortization schedule. Line extensions with a total estimated project cost of less than or equal to \$3,000 shall be financed for a maximum term of thirty-six (36) months. Line extensions with a total estimated project cost of less than or equal to \$6,000 but greater than \$3,000 shall be financed for a maximum term of sixty (60) months. Line extensions with a total estimated project cost of less than or equal to \$10,000 but greater than \$6,000 shall be financed for a maximum term of eighty-four (84) months. Line extensions with a total estimated project cost of less than or equal to \$50,000 but greater than \$10,000 shall be financed for a maximum term of one hundred twenty (120) months. Member's financing more than \$6,000 shall provide a security interest to the Corporation in the property for which the service is being provided. The security interest will be released upon satisfaction of the terms of the Line Extension Agreement. Members may use a combination of advance payment and execution of the Line Extension Agreement to manage payment amounts and terms for the maximum terms previously stated.
  - 1. The interest rate used to calculate payments under the Line Extension Agreement shall be fixed for the entire contract period. This interest rate is set at the time costs are calculated on the service agreement and is one and one-half percent (1.5%) above the effective interest rate. The effective interest rate is updated monthly and is the rate in effect for the equivalent term treasury as published by RUS. Members may pre-pay on their Line Extension Agreement, however pre-payment shall not relieve the member from any obligations incurred under the terms of the contract for service, and any pre-payment will be applied as a principal pre-payment effectively shortening the term of the loan.
  - 2. Financing of line extensions is only available and offered to members with credit in good standing with the Corporation.

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2<sup>nd</sup> Revised Sheet No. 39R Cancels 1<sup>st</sup> Revised Sheet No. 39R

## **Line Extension Policy**

**Section V** 

#### NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- E. Established, platted subdivisions (other than mobile home courts) located within the service area of the Corporation, will be served under the following conditions:
  - 1. A non-refundable design fee of \$1,500 + \$25 per lot will be assessed with the application prior to design and estimating of the electrical facilities needed to serve the development.
  - 2. One hundred percent (100%) of the cost of all primary feeders, sectionalizing pedestals, transformer pads and secondary lines to the lot line of each lot shall be subject to an advance from the developer, plus ten percent (10%) contingency. Funds for the installation of the facilities shall be advanced to the Corporation before the commencement of construction based upon the estimate. The developer will be responsible for any and all costs incurred that are greater than the estimated amount, and the Corporation will refund any collected monies that were greater than the final costs upon reconciliation and close-out of the project.
  - 3. The platted subdivision will identify the easement corridors of sufficient width that allow for power line extension to each lot identified as a lot eligible for future electrical service.
  - 4. Prior to construction of electric facilities, the developer shall notify the Corporation, in writing, that the areas where electric facilities are to be installed, are at final grade. Any subsequent change in grades that require a change in the electric facilities will result in a charge to the developer for such changes in facilities.
  - 5. All primary feeders and transformer pads will usually be installed at one time; however, this construction may be in segments by mutual agreement between the developer and the Corporation.
  - 6. All facilities will be installed by the Corporation or by Corporation contractors.
  - 7. If a joint trench use agreement is required, the developer will prepay all the estimated additional costs required of the Corporation as it pertains to the modified installation process incurred by joint use trenching and/or coordination with other utilities.
- F. Mobile home courts established within the service area of the Corporation shall be served under the following conditions:
  - 1. Service to permanent dwelling mobile home courts will be supplied to preestablished metering points, one meter (1) per mobile home space.
  - 2. The cost of all installations shall be at the expense of the court owner and includes the installed cost of all wire, meter boxes and associated facilities.

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2<sup>nd</sup> Revised Sheet No. 40R Cancels 1<sup>st</sup> Revised Sheet No. 40R

## **Line Extension Policy**

Section V

#### NON-INDUSTRIAL LINE EXTENSION (Cont'd)

- 3. All meters will be supplied by the Corporation and shall be installed and removed only by Corporation personnel. All wiring from the metering point to the mobile home shall be the responsibility of the court owner or mobile homeowner.
- 4. Individual meters are subject to the Corporation's individual service contracts.
- 5. The Corporation shall not provide mastered meter service to mobile home courts when such installation will be used for resale of electric service to tenants.
- 6. The court owner shall advance one hundred percent (100%) of the construction funds before facilities are installed by the Corporation or Corporation contractors.
- 7. All facilities installed by the Corporation remain the property of the Corporation, including the right to maintain and alter, as necessary.
- 8. Before construction of electric facilities, the court owner shall notify the Corporation, in writing, that areas where electric facilities are to be installed are at final grade. Any subsequent change in grades that require a change in electric facilities will result in a charge to the court for such changes in facilities.
- 9. If a joint trench use agreement is required, the developer will prepay all the estimated additional costs required of the Corporation as it pertains to a modified installation process incurred by joint use trenching and/or coordination with other utilities.

#### V. SPECIAL CONDITIONS

Whenever the Corporation anticipates or determines that special or abnormal risks or conditions may be involved in providing service to a specified load or customer, the Corporation may require special terms, contract conditions, or bonds of such a nature as it may consider reasonably necessary for protection from financial loss in connection with the special conditions or risks involved.

- A. Any special terms, contract conditions, or bonds shall be in place before the ordering of materials or commencement of construction. Such special terms, contract conditions, or bonds shall not eliminate the need for extension charges as stated in paragraph II Permanent Service above. Special contracts for extension of the Corporation's distribution system to supply commercial service, industrial service or service of indeterminate character shall be filed with the Commission.
- B. Members may contract the construction of their own line extensions provided the following conditions are met:
  - 1. Line extension complies with the Corporation's specifications.
  - 2. Line extensions will be warranted by the member or its contractor against defects in materials and workmanship for a period of one (1) year from date of acceptance and energization by the Corporation.
  - 3. Operations and maintenance responsibilities will transfer to the Corporation at the time of project acceptance and energization.

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2<sup>nd</sup> Revised Sheet No. 41R Cancels 1<sup>st</sup> Revised Sheet No. 41R

## **Line Extension Policy**

Section V

## SPECIAL CONDITIONS (Cont'd)

- 4. Ownership of facilities will transfer upon the member providing a release of lien for materials and labor, a completed bill of sale, an easement in the form that is acceptable to the Corporation, and acceptance and energization of the line extension.
- 5. Work is performed by contractors on the Corporation's Qualified Bidder's List.

#### VI. GUARANTEES AND/OR CONTRIBUTION SHARING

Cost sharing for line extensions is governed by Section VIII Line Equalization, of these Rules and Regulations.

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Meter Testing and Verification Program

Section IX

## RULES AND REGULATIONS OF SERVICE Section IX METER TESTING AND VERIFICATION PROGRAM

#### I. GENERAL STATEMENT

In compliance with the Wyoming Public Service Commission's (Commission's) adopted Rule in Chapter 3, Section 18 (Meter Testing Program), the Corporation has developed and submitted the following Meter Testing and Verification Program. The intent of this Meter Testing and Verification Program is to develop a program for the calibration, recertification, care, and maintenance of meters, recording devices, field testing equipment, and meter calibration equipment in order toto keep the equipment in proper working condition. The Corporation, or its certified contractors, has all necessary meters, instruments, meter calibration equipment, and facilities necessary to carry out its meter-testing program. The facilities and equipment are available for inspection by any authorized representative of the Commission. Finally, meter verifications, test results, and audit data as well as equipment calibration records are kept electronically and available upon Commission request or as otherwise required by the Commission's and Corporations Rules and Regulations with regard toregarding member requests.

#### II. RULES AND GUIDELINES

- A. The Corporation's Meter Testing and Verification program shall conform as applicable to the following guidelines and rules:
  - 1. RUS Bulletin 1730-1;
  - 2. RUS Form 300;
  - 3. Wyoming Public Service Commission, Chapter 3, Section 18.

#### III. METER ACCURACY

- A. The Corporation's Meter Testing and Verification program will statistically verify meter accuracy according to:
  - 1. ANSI for Electric Meters Code for Electric Metering (ANSI C12.1)
  - 2. American National Standard Sampling Procedures and Tables for Inspection by Variables for Percent Non-Conforming (ANSI/ASQ Z1.9-2008) for sampling.
- B. The Corporation will verbally advise members about the contents of the ANSI Standards in person or by phone. If the member desires to personally review the ANSI Standards, they may

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## **Meter Testing and Verification Program**

Section IX

do so in one of the Corporation's main offices in Sundance, Gillette, or Sheridan. Prior to such review, they must read and acknowledge the ANSI Standards licensing requirements and affirm that they will not copy or reproduce them in any manner.

## III. METER ACCURACY cont'd

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## **Meter Testing and Verification Program**

**Section IX** 

#### METER ACCURACY (cont'd)

do so in one of the Corporation's main offices in Sundance, Gillette, or Sheridan. Prior to such review, they must read and acknowledge the ANSI Standards licensing requirements and affirm that they will not copy or reproduce them in any manner.

All in-service billing/revenue meters in the Corporation's service territory will be divided into homogeneous test groups based on form factor. A random sample from each homogeneous lot will be selected, tested, and statistically analyzed. The random test sample program as described below will be conducted annually thereafter. Meters will be considered accurate for billing purposes if they register within +/- two percent (2%) under test conditions.

#### IV. QUALIFICATIONS

- A. The Corporation will meet the following qualifications:
  - 1. One hundred percent (100%) testing of all meters by the manufacturer prior to shipment to the Corporation;
  - Quality assurance testing of all meters by Corporation personnel before initial installation (testing information will be loaded into the Corporation's billing system for historical reference);
  - 2. Minimum of eight percent (8%) (eight [8] of ninety-six [96] per pallet) of meters received new by Corporation personnel shall be quality assurance tested by the Corporation;
  - 3. Ability to monitor all in-service meters for performance through daily read <u>ratess</u>;
  - 4. <u>Ability to evaluate member usage abnormalities through daily reads; Ability to monitor member usage abnormalities on a daily basis;</u>
  - 5. Field test and verify all instrument rated meters and associated instrumentation transformers once every three (3) years; and
  - 6. Meter forms other than instrument rated meter forms will be random sample tested per the Metering Testing and Verification Schedule.
  - 5. Random sample testing and field verification of meters after ten (10) years in service (explained in detail below);
  - 6. Field test and verify all instrument rated meters and associated instrumentation transformers once every three (3) years; and
  - 7. Testing results will be stored in the Corporation's billing system for historical reference.

Table 1. Meter Forms and Associated Information

Meter Number Starting Letter	Number of Phases Class in Amps	<u>Voltage</u>	<u>Application</u>	Number of Wires
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## **Meter Testing and Verification Program**

**Section IX** 

Z or TZ	1S	1	100 or 200	120	Self-contained	2
<u>Z 01 1Z</u>		<u>±</u>				2
<u> </u>	<u>2S</u>	<u> </u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
<u>J</u>	<u>2S</u>	<u>1</u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
<u>HJ</u>	<u>2S</u>	<u>1</u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
<u>HT</u>	<u>2S</u>	<u>1</u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
<u>U</u>	<u>2S</u>	<u>1</u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
<u>H</u>	<u>2S</u>	<u>1</u>	<u>200</u>	<u>240</u>	Self-contained	<u>3</u>
A or DA	<u>2S</u>	<u>1</u>	<u>320</u>	<u>240</u>	Self-contained	<u>3</u>
<u>N</u>	<u>12S</u>	<u>1&amp; 3</u>	<u>200</u>	120-480	Self-contained	<u>3</u>
E	<u>16S</u>	<u>3</u>	<u>20</u>	120-480	Self-contained	<u>4</u>
V or DV	<u>3S</u>	<u>1</u>	<u>10 or 20</u>	120, 240, 480	Instrument-rated	<u>2</u>
<u>Y</u>	<u>4S</u>	<u>3</u>	<u>10 or 20</u>	<u>240</u>	Instrument-rated	<u>3</u>
<u>M</u>	<u>5S</u>	3	<u>20</u>	<u>120-480</u>	Instrument-rated	<u>4</u>
<u>R</u>	5S, 6S, 9S	<u>3</u>	<u>20</u>	<u>120-480</u>	<u>Instrument-rated</u>	<u>3 or 4</u>

Table 1. Meter Forms and Associated Information

Table 1. Wictel	OTTIB and TI	bbociatea mir	ommunon			
Meter Number Starting Letter	<u>NEMA</u> <del>Form</del>	Number of Phases	Class in Amps	<del>Voltage</del>	<u>Application</u>	Number of Wires
<del>Z or TZ</del>	<del>1S</del>	<u>±</u>	<del>100 or 200</del>	<u>120</u>	Self-contained	₹
垩	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u> </u>
<u> <del>I</del></u>	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u>3</u>
<del>III</del>	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u>3</u>
HT	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u>3</u>
₩	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u>3</u>
₩	<del>2S</del>	<u>±</u>	<del>200</del>	<del>240</del>	Self-contained	<u>3</u>
A or DA	<del>2S</del>	<u>±</u>	<u>320</u>	<del>240</del>	Self-contained	<u>3</u>
<u>N</u>	<del>12S</del>	<del>1&amp;3</del>	<del>200</del>	<del>120-480</del>	Self-contained	<u>3</u>
<del></del>	<u> 16S</u>	<u>3</u>	<del>20</del>	<del>120-480</del>	Self-contained	<u>4</u>
<del>V or DV</del>	<u>3S</u>	<u>±</u>	<del>10 or 20</del>	<del>120, 240, 480</del>	Instrument-rated	₹
¥	<u>4S</u>	<u>3</u>	<del>10 or 20</del>	<del>240</del>	Instrument-rated	<u>3</u>
<u><del>M</del></u>	<u>5S</u>	<u>3</u>	<del>20</del>	<del>120-480</del>	Instrument-rated	<u>4</u>
<u>R</u>	<u>5S, 6S, 9S</u>	<u>3</u>	<del>20</del>	<del>120-480</del>	Instrument-rated	<u>3 or 4</u>

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## **Meter Testing and Verification Program**

**Section IX** 

Meter Number Starting Letter	NEMA Form	Phase	Class (Amps)	Voltage	Application	Number of Wires
TZ	<del>1S</del>	10	100 or 200	120	Self-contained	2
Ŧ	<del>2S</del>	<del>10</del>	200	240	Self-contained	3
U	<del>2S</del>	<del>10</del>	200	240	Self-contained	3

2<sup>nd</sup> 1<sup>st</sup>-Revised Sheet No. 500R Cancels Original 1<sup>st</sup> Revised Sheet No. 500R

#### **Meter Testing and Verification Program**

Section IX

#### **QUALIFICATIONS** (cont'd)

H	<del>2S</del>	<del>10</del>	200	240	Self-contained	3
A	<del>2S</del>	1□	<del>200</del>	<del>240</del>	Self-contained	3
N	<del>12S</del>	<del>1□ &amp;</del> <del>3□</del>	200	120-480	Self-contained	3
¥	3 <del>S</del>	10	<del>10 or 20</del>	120, 240, 480	Instrument rated	2
¥	4 <del>S</del>	3⊟	<del>10 or 20</del>	240	Instrument-rated	3
₩	<del>16S</del>	3⊟	200	120-480	Self-contained	4
E	<del>16S</del>	3□	<del>20</del>	120-480	Self-contained	4 -Reactive
M	<del>5S</del>	3⊟	20	120-480	Instrument rated	4
P	<del>6S</del>	3⊟	20	120-480	Instrument rated	4
X	<del>9S</del>	3⊟	<del>20</del>	120-480	Instrument-rated	4
R	5S, 6S, 9S	3□	20	120-480	Instrument rated	3 or 4 Reactive

## IV. QUALIFICATIONS cont'd

B.—Test Equipment\_-

- B. The Corporation uses a variety of equipment to test meters and associated instrumentation. This equipment includes the following list along with the calibration schedule. All calibrations on test equipment conform to ANSI standards and manufacturer recommendations. All calibration is done by a third-party, certified contractor, or by the manufacturer of the equipment. These calibration records are available for inspection upon request or as required by the Commission. All equipment has protective cases which are used for transport between job locations to ensure there is no damage or issues that may affect testing results. These cases are stored in temperature—controlled environments when not in use and are only taken out during actual testing procedures. In cases where results may not seem correct to the technician, there are several devices for each model type so results can be cross checked between two devices, as appropriate, to provide correct validation.
  - Laboratory Meter Test Boards (calibrated annually)
     a. Radian Research Models RFL 5800, WECO 2350, and WECO 4050
  - 2. Portable Test Sets (calibrated annually)

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## **Meter Testing and Verification Program**

Section IX

- a. Probewell Models MT-1, MT-1/NT9, MT-1NT
- 3. Instrumentation Test Equipment (calibrated bi-annually)
  - a. SpinLab Bird Dog Models 5000, 6000

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#### **Meter Testing and Verification Program**

**Section IX** 

#### V. METER TESTING AND VERIFICATION SCHEDULE

- A. The schedule for meter testing and verification will consist of the following:
  - 1. All <u>single phase 100</u> and <u>three phase 300</u> demand billed accounts, including <u>three phase 300</u> instrument rated metered accounts and substation meters, will be tested, and verified at least once every three (3) years. The Current Transformers (CTs) and Potential Transformers (PTs) for these metering points will also be tested with test results stored in the Corporation's records.
  - 2. All 69-kV metered accounts will be tested and verified once every six (6) months. The Current Transformers (CTs) and Potential Transformers (PTs) for these metering points will also be tested with test results stored in the Corporation's records.
  - 3. A random sample, from each of the remaining meter form types (specifically 2S, 12S, and 16S) will be selected to be tested/verified annually according to the ANSI guidelines listed above. If more than four-(4) percent (4%) of the meters within each meter form type listed above are not within a +/- two percent (2%) compliance, another random sampling of meters from that form type will be chosen to be tested/verified. Additionally, if a Corporation meter, when tested, in any form group varies more than +/- two percent (-2%), the Corporation will replace that meter at the time of test/verification. Once a meter has been randomly selected for testing, it will be taken out of the list of potential meters for random selection for the next five (5) years.

#### 3.

#### V. METER TESTING AND VERIFICATION SCHEDULE (cont'd)

Please refer to Table 1 above for a complete list and description of each NEMA meter type currently used in active meters on the Corporation's system. Additionally, forms for verifying field information are taken directly from the Service Orders for each test/verification. Service Orders are generated out of information currently residing in the Corporation's billing system (CIS). After field information is gathered/verified, the Corporation's billing system is matched/updated with all appropriate information.

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#### **Meter Testing and Verification Program**

**Section IX** 

#### METER TESTING AND VERIFICATION SCHEDULE (cont'd)

## B. Meter Testing and Verifications

For meter tests and verifications, the following information is gathered or verified:

- Meter number
- Secondary meter number
- Meter type
- Register type
- Usage dials
- Meter phase
- Number of wires
- Manufacturer
- Meter type description
- NEMA form
- Class
- Amps
- Volts
- Base KH
- Register ratio

- Technician name
- Actual number of dials
- Rate
- Revenue Class
- Seal
- Billing multiplier
- Present reading
- Previous reading
- Demand reading (if applicable)
- Power factor
- Township, Range, Section
- Latitude/Longitude
- Transformer capacity
- Date of test/verification

#### C. Potential Transformer (PT) Tests and Verifications

For field meter tests and verifications, the following information is gathered or verified:

- System voltage
- Ratio
- Accuracy
- Fused (yes/no)

- Latitude/Longitude
- Date of test
- Technician name

## D. <u>Current Transformer (CT) Tests and Verifications</u>

For field meter tests and verifications, the following information is gathered or verified:

- System voltage
- Ratio
- Accuracy
- Short time rating

- Latitude/Longitude
- Date of test
- Technician name

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Cancels 1st Revised Original Sheet No. 534R

#### **Meter Testing and Verification Program**

**Section IX** 

## METER TESTING AND VERIFICATION SCHEDULE (cont'd)

#### E. Instrument Rated Services

The Corporation is required to test instrument rated services once every three (3) years.

#### F. Self-Contained Services

The Corporation will conduct the following inspection and testing at each self-contained service within the randomly sampled NEMA form type groups:

- 1. Conduct a visual inspection of the service noting or completing anything that needs to be fixed:
  - a. Meter;
  - b. Seal;
  - c. Meter base;
  - d. Display;
  - e. General appearance of service (e.g., excellent, good, fair, poor, needs attention);
- 2. Take a picture of the service;
- 3. Record meter reading from dials or electronic display;

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**Meter Testing and Verification Program** 

**Section IX** 

Reserved for Future Use Record endpoint reading;

4. If there is a 100 kWh or more discrepancy between the endpoint and the meter, the meter will be replaced at the time of testing.

2<sup>nd</sup> Revised Sheet No. 49R Cancels 1<sup>st</sup> Revised Sheet No. 49R

## **Meter Testing and Verification Program**

Section IX

# RULES AND REGULATIONS OF SERVICE Section IX METER TESTING AND VERIFICATION PROGRAM

#### I. GENERAL STATEMENT

In compliance with the Wyoming Public Service Commission's (Commission's) adopted Rule in Chapter 3, Section 18 (Meter Testing Program), the Corporation has developed and submitted the following Meter Testing and Verification Program. The intent of this Meter Testing and Verification Program is to develop a program for the calibration, recertification, care, and maintenance of meters, recording devices, field testing equipment, and meter calibration equipment to keep the equipment in proper working condition. The Corporation, or its certified contractors, has all necessary meters, instruments, meter calibration equipment, and facilities necessary to carry out its meter-testing program. The facilities and equipment are available for inspection by any authorized representative of the Commission. Finally, meter verifications, test results, and audit data as well as equipment calibration records are kept electronically and available upon Commission request or as otherwise required by the Commission's and Corporations Rules and Regulations regarding member requests.

#### II. RULES AND GUIDELINES

- A. The Corporation's Meter Testing and Verification program shall conform as applicable to the following guidelines and rules:
  - 1. RUS Bulletin 1730-1;
  - 2. RUS Form 300:
  - 3. Wyoming Public Service Commission, Chapter 3, Section 18.

#### III. METER ACCURACY

- A. The Corporation's Meter Testing and Verification program will statistically verify meter accuracy according to:
  - 1. ANSI for Electric Meters Code for Electric Metering (ANSI C12.1)
  - 2. American National Standard Sampling Procedures and Tables for Inspection by Variables for Percent Non-Conforming (ANSI/ASQ Z1.9-2008) for sampling.
- B. The Corporation will verbally advise members about the contents of the ANSI Standards in person or by phone. If the member desires to personally review the ANSI Standards, they may do so in one of the Corporation's main offices in Sundance, Gillette, or Sheridan. Prior to such review, they must read and acknowledge the ANSI Standards licensing requirements and affirm that they will not copy or reproduce them in any manner.

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## III. METER ACCURACY cont'd

All in-service billing/revenue meters in the Corporation's service territory will be divided into homogeneous test groups based on form factor. A random sample from each homogeneous lot will be selected, tested, and statistically analyzed. The random test sample program as described below will be conducted annually thereafter. Meters will be considered accurate for billing purposes if they register within +/- two percent (2%) under test conditions.

## IV. QUALIFICATIONS

- A. The Corporation will meet the following qualifications:
  - 1. One hundred percent (100%) testing of all meters by the manufacturer prior to shipment to the Corporation;
  - 2. Minimum of eight percent (8%) (eight [8] of ninety-six [96] per pallet) of meters received new by Corporation personnel shall be quality assurance tested by the Corporation;
  - 3. Ability to monitor all in-service meters for performance through daily read rates;
  - 4. Ability to evaluate member usage abnormalities through daily reads;
  - 5. Field test and verify all instrument rated meters and associated instrumentation transformers once every three (3) years; and
  - 6. Meter forms other than instrument rated meter forms will be random sample tested per the Metering Testing and Verification Schedule.
  - 7. Testing results will be stored in the Corporation's billing system for historical reference.

Table 1. Meter Forms and Associated Information

Meter Number Starting Letter	NEMA Form	Number of Phases	Class in Amps	Voltage	Application	Number of Wires
Z or TZ	1S	1	100 or 200	120	Self-contained	2
T	2S	1	200	240	Self-contained	3
J	2S	1	200	240	Self-contained	3
HJ	2S	1	200	240	Self-contained	3
HT	2S	1	200	240	Self-contained	3
U	2S	1	200	240	Self-contained	3
Н	2S	1	200	240	Self-contained	3
A or DA	2S	1	320	240	Self-contained	3
N	12S	1& 3	200	120-480	Self-contained	3
Е	16S	3	20	120-480	Self-contained	4
V or DV	3S	1	10 or 20	120, 240, 480	Instrument-rated	2
Y	4S	3	10 or 20	240	Instrument-rated	3
M	5S	3	20	120-480	Instrument-rated	4
R	5S, 6S, 9S	3	20	120-480	Instrument-rated	3 or 4

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2<sup>nd</sup> Revised Sheet No. 51R Cancels 1<sup>st</sup> Revised Sheet No. 51R

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#### IV. QUALIFICATIONS cont'd

- B. Test Equipment The Corporation uses a variety of equipment to test meters and associated instrumentation. This equipment includes the following list along with the calibration schedule. All calibrations on test equipment conform to ANSI standards and manufacturer recommendations. All calibration is done by a third-party, certified contractor, or by the manufacturer of the
  - equipment. These calibration records are available for inspection upon request or as required by the Commission. All equipment has protective cases which are used for transport between job locations to ensure there is no damage or issues that may affect testing results. These cases are stored in temperature-controlled environments when not in use and are only taken out during actual testing procedures. In cases where results may not seem correct to the technician, there are several devices for each model type so results can be cross checked between two devices, as appropriate, to provide correct validation.
  - 1. Laboratory Meter Test Boards (calibrated annually)
    - a. Radian Research Models RFL 5800, WECO 2350, and WECO 4050
  - 2. Portable Test Sets (calibrated annually)
    - a. Probewell Models MT-1, MT-1/NT9, MT-1NT
  - 3. Instrumentation Test Equipment (calibrated bi-annually)
    - a. SpinLab Bird Dog Models 5000, 6000

## V. METER TESTING AND VERIFICATION SCHEDULE

- A. The schedule for meter testing and verification will consist of the following:
  - 1. All single phase and three phase demand billed accounts, including three phase instrument rated metered accounts and substation meters, will be tested, and verified at least once every three (3) years. The Current Transformers (CTs) and Potential Transformers (PTs) for these metering points will also be tested with test results stored in the Corporation's records.
  - 2. All 69 kV metered accounts will be tested and verified once every six (6) months. The Current Transformers (CTs) and Potential Transformers (PTs) for these metering points will also be tested with test results stored in the Corporation's records.
  - 3. A random sample, from each of the remaining meter form types (specifically 2S, 12S, and 16S) will be selected to be tested/verified annually according to the ANSI guidelines listed above. If more than four percent (4%) of the meters within each meter form type listed above are not within a +/- two percent (2%) compliance, another random sampling of meters from that form type will be chosen to be tested/verified. Additionally, if a Corporation meter, when tested, in any form group varies more than +/- two percent (2%), the Corporation will replace that meter at the time of test/verification. Once a meter has been randomly selected for testing, it will be taken out of the list of potential meters for random selection for the next five (5) years.

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## V. METER TESTING AND VERIFICATION SCHEDULE cont'd

Please refer to Table 1 above for a complete list and description of each NEMA meter type currently used in active meters on the Corporation's system. Additionally, forms for verifying field information are taken directly from the Service Orders for each test/verification. Service Orders are generated out of information currently residing in the Corporation's billing system (CIS). After field information is gathered/verified, the Corporation's billing system is matched/updated with all appropriate information.

#### B. Meter Testing and Verifications

For meter tests and verifications, the following information is gathered or verified:

- Meter number
- Secondary meter number
- Meter type
- Number of wires
- Manufacturer
- Meter type description
- NEMA form
- Class
- Amps
- Volts
- Base KH

- Register ratio
- Technician name
- Rate
- Revenue Class
- Seal
- Billing multiplier
- Present reading
- Previous reading
- Demand reading (if applicable)
- Date of test/verification

#### C. Potential Transformer (PT) Tests and Verifications

For field meter tests and verifications, the following information is gathered or verified:

- System voltage
- Ratio
- Accuracy
- Fused (yes/no)

- Latitude/Longitude
- Date of test
- Technician name

#### D. Current Transformer (CT) Tests and Verifications

For field meter tests and verifications, the following information is gathered or verified:

- System voltage
- Ratio
- Accuracy
- Short time rating

- Latitude/Longitude
- Date of test
- Technician name

2<sup>nd</sup> Revised Sheet No. 53R Cancels 1<sup>st</sup> Revised Sheet No. 53R

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## METER TESTING AND VERIFICATION SCHEDULE (cont'd)

#### E. Instrument Rated Services

The Corporation is required to test instrument rated services once every three (3) years.

#### F. Self-Contained Services

The Corporation will conduct the following inspection and testing at each self-contained service within the randomly sampled NEMA form type groups:

- 1. Conduct a visual inspection of the service noting or completing anything that needs to be fixed:
  - a. Meter;
  - b. Seal;
  - c. Meter base;
  - d. Display;
  - e. General appearance of service (e.g., excellent, good, fair, poor, needs attention);
- 2. Take a picture of the service;
- 3. Record meter reading from dials or electronic display;

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