

# ELECTRIC SERVICE REQUIREMENTS MANUAL

## New Construction Services & Engineering

**Steamboat Headquarters**  
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Steamboat Springs, CO 80487

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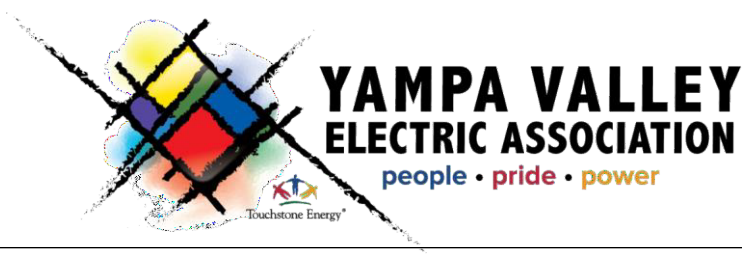
24 Hour Emergency Service-1-888-USE-YVEA, 1-888-873-9832

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[www.yvea.com](http://www.yvea.com)

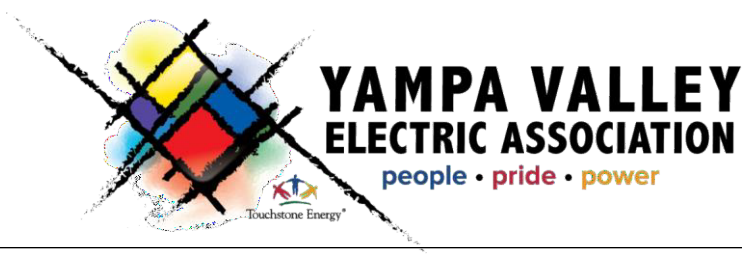
### REVISION HISTORY

NO.	REVISIONS	DATE	APPROVAL
0	INITIAL RELEASE	03/13/19	BSH
1	2022 UPDATE	03/18/22	BSH
2	2023 UPDATE		



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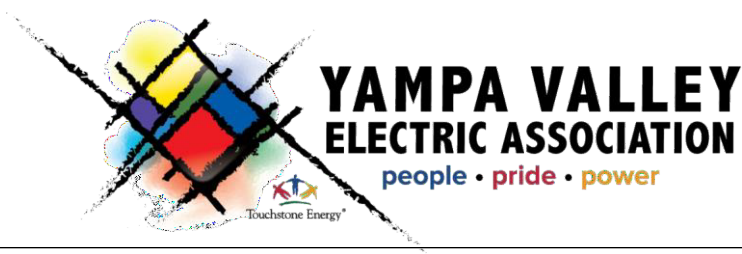
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## I. YVEA CONTACTS

Below is a list of primary YVEA contacts that may be needed by applicants/members:

### **YVEA Engineering**

Emma Mortenson, Engineering Services Specialist, 970-871-2242

### **YVEA Dispatch**

(970) 871-2283

### **YVEA Main Office/Outage Reporting**

970-879-1160 or 888-873-9832

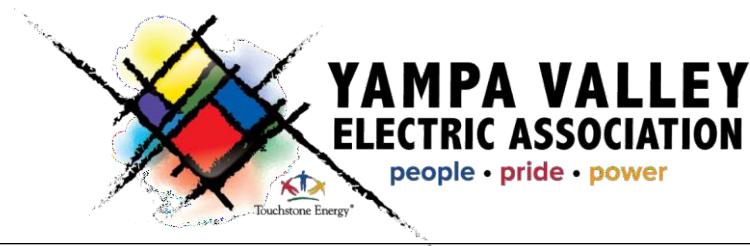
## II. APPLICATION FOR SERVICE

All applications for electric service from Yampa Valley Electric Association (YVEA) shall be in accordance with its Line Extension Policy, Rules and Regulations and Bylaws. In all circumstances the applicant shall be the owner of the property to be serviced by the extension and must provide documentation proving the ownership, if requested. If the applicant is requesting a line extension from YVEA they must also sign all Right-of-Way Easement documentation provided by YVEA prior to energization of the service.

### A. APPLICATION FORMS

The first step in starting new construction with Yampa Valley Electric Association (YVEA) is to submit an “New Construction/Change of Service Form” and submit an Engineering Fee, (This fee will go towards expenses such as those incurred as part of the design and estimating process and is non-refundable). This will place the applicant’s/member’s request for service into the Engineering New Construction Schedule and the Start/Stop Service Form will be used to establish a billing account for the new service. The applicant may also be responsible for providing other documentation including but not limited to:

- Commercial Service Load Form
- Motor Load Form
- One-line Diagrams
- Load Calculations
- Surveys and Plats
- Renewable Energy Application



YVEA will handle requests for new construction service in the order the requests are received but will also consider applicant's/member's circumstances and needs when establishing its design and construction schedules. Once the job progresses to the top of the schedule, a Field Representative will contact the applicant/member for an onsite appointment. During this appointment the Field Representative will go over proposed line routes, equipment locations, permits, right-of-way easements and provide estimated costs.

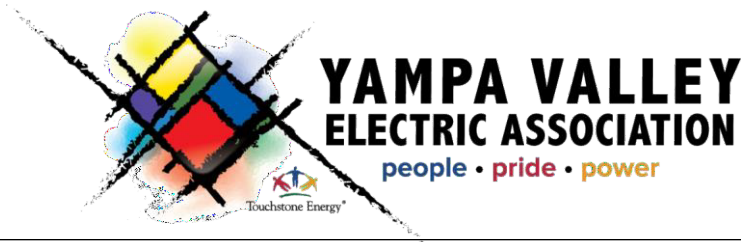
When complete project information is obtained and required documents are completed, the Field Representative will design the job and determine a cost estimate. The cost estimate is based on YVEA's current construction costs and will include all costs necessary for the extension/upgrade of facilities including right-of-way investigation, necessary licenses and permits and construction. Any changes to the design or additional trips to the site may result in additional expense to the applicant/member.

Once the cost estimate is finalized it will be submitted to the applicant/member for payment along with a Line Extension Contract and Right-of-Way Easement, if applicable.

Once payment and all associated documentation is received YVEA will order equipment and schedule the construction.

## **B. TEMPORARY SERVICE**

If an applicant/member requires temporary service during construction of their project, they are responsible for requesting the size of service for the temporary feed. The size shall be requested in transformer KVA and amperage. YVEA takes no responsibility for sizing of this temporary service. If the temporary service is sized incorrectly and a transformer failure occurs the applicant/member will be responsible for replacement costs of the failed transformer and all associated equipment that was damaged. Standard temporary service installations are 10kVA transformers.



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## **C. RIGHT-OF-WAY EASEMENTS AND ACCESS**

A Right-of-Way Easement is required for the construction of new power lines and will need to be obtained prior to installation of the requested service. In the event YVEA is required to cross property other than that of the applicant requesting the service, the requesting applicant will be required to obtain all easements needed and these easements shall be on YVEA easement documentation. A platted and dedicated front, side and back lot line utility easement of 10' will be provided for underground utilities in all subdivisions with a 15' easement on all boundaries. If the power line is along a county road, YVEA will require an easement of 15 feet. All other easements shall be 30 feet (15 feet from the center of the installed utility line).

## **D. INITIAL RIGHT-OF-WAY CLEARING**

YVEA requires a clearance of 30 FT for all new primary overhead installations. The applicant/member is responsible for the initial right-of-way clearing but can request YVEA to perform this function which will be included on the invoice. If this clearing is within a state or county right-of-way, then a permit is required from these entities.

The member is also required to provide a clearance radius of 5 FT for all secondary overhead service wire.

If the applicant/member cannot differentiate between primary and secondary lines, please contact Emma Mortenson (970) 871-2242.

### **III. PROCESSING SERVICE APPLICATIONS**

There are four (4) separate phases in the processing of each new service application and each of the four phases requires that the applicant complete certain steps in the process. These steps may involve supplying information about the requirements for electric service to the Association or completing certain actions at the construction site. In all cases, a delay in providing information needed for engineering or construction will delay the availability of electric service. Therefore, it is important that information is provided as needed, and all steps are completed as quickly as possible. This guideline is provided to assist the applicant with this process. Some requests may have unusual aspects not specifically described here and only depict standard process requests.

#### **A. PHASE 1 – Engineering Initiation**

Initial contact with the Association will identify the owner as an applicant for new service or a change in service. The information required in PHASE 1 is to be provided in the “New Construction/Change of Service Application”. Upon receipt of this signed document and payment of the design fee, the project will be released to an Association Field Representative.

##### ***PHASE 1 (Applicant/Member Responsibilities)***

- Service Details
- Legal description of property to which service is requested
- Contact Information
- Credit Information
- Electric Service Requested
- Service Voltage
- Service Description
- Any Distributed Generation (Solar, Wind, etc.) interconnection requirement's\*
- Payment of Engineering fee

\*For information regarding the Distributed Generation Interconnection requirements, please visit [www.yvea.com](http://www.yvea.com)

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*Additional information that may be required for commercial, industrial, and large residential services*

- Electrical one-line diagram with load calculations
- Plat/Survey with legal description of property
- Site plan
- Civil Drawings
- Largest motors(s) and type of starting to be used
- Size and quantity of service entrance conductors

## **B. PHASE 2 – Engineering Design**

After reviewing the submitted application, the Field Representative will contact the applicant at the phone numbers provided to arrange an on-site meeting to discuss the service requirements and explain the Association's policies and procedures that apply to your project. During the on-site meeting, the applicable items in PHASE 2 will be discussed. Be prepared to show plans, drawings, building/well or septic permits to the Field Representative. A plat of the property may be required. It may be necessary for the applicant to obtain right-of-way if the routing of the power line crosses a property on which the association does not have easements. The Field Representative will instruct the applicant in this regard, when necessary. The Field Representative will design, route and stake the line extension at that time or later in some situations.

### ***PHASE 2 (Applicant/Member Responsibilities)***

- Location of property pins, including corner and point on line, if needed
- Location of Well, septic system and leach field
- Location of driveway or other access
- Location of building corners (REQUIRED)
- Right-of-way acquisition
- Location of Propane tank(s) and gas service lines
- Location of proposed power line route
- Location of electrical equipment and service



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### **C. PHASE 3 – Material Procurement, Construction, Scheduling & Site Readiness**

Once the engineering design is complete, the Field Representative will contact the applicant with the cost estimate. This is a construction estimate amount only that will be converted to an invoice when the member is ready. Cost estimates are valid for sixty (60) days. After that time, or if redesigns are required, payment of an additional design fee may be required. The items shown in PHASE 3 are required before a job can be released for construction scheduling. Once the job has been designed, all invoices paid, and all necessary paperwork or permits executed, the job will then be forwarded to the Warehouse for procurement of material. After material procurement is complete the job will be moved to the Operations Department for the scheduling and installation. ***YVEA assumes no liability for unforeseen factors that delay the project completion date.***

#### ***PHASE 3 (Applicant/Member Responsibilities)***

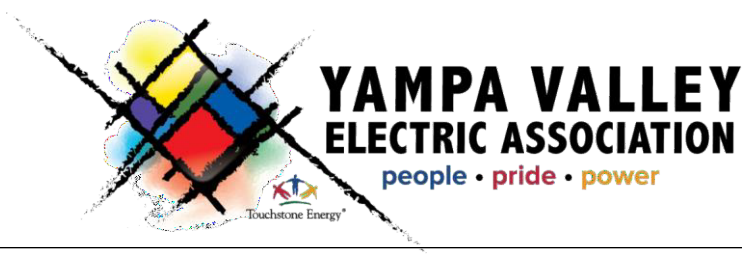
- Pay the estimated costs of construction
- Sign the line extension contract and return, if required
- Submit the signed and notarized right-of-way easement, if required
- Pay balances on all other Association accounts, if any
- Post the physical address and building permit at the property

## **D. PHASE 4 – Service Energization**

Following construction of the power line and installation of electrical equipment, the Association will set a meter in accordance with the stipulations shown in PHASE 4. Typically, the meter can be set within five (5) working days following the receipt of a meter release directly to YVEA from the State, County or City/Town Electrical Inspector. Other permitting requirements may apply to some jobs.

### ***PHASE 4 (Applicant/Member Responsibilities)***

- Sign and submit a start/stop service request form
- Meter loop constructed to current Association specifications as shown in the service guide drawings
- Meter loop constructed in location approved by the Association
- Meter loop is inspected by the Electrical Inspector
- Electrical Inspector notifies the Association of meter release
- Pay associated fees for issuance of meter to be installed
- Service order issued to set meter and energize service



## IV. YVEA PROJECT DESCRIPTIONS AND TYPICAL SCHEDULES

### A. EXTRA TRIP FEE

YVEA reserves the right to assess a flat charge to any member causing a construction delay for YVEA construction crews. A construction delay is any trip to the job site made by a construction crew where the scheduled work could not be completed by the construction crew because conditions at the site were different than what was represented by the applicant/member when the appointment was scheduled by the applicant/member. ***A minimum charge per occurrence will be assessed for the extra trip based on the Line Crew Service Charge in YVEA's Schedule of Fees.***

### B. YVEA/MEMBER PROJECT TIMELINES

Delays to the start of project management may occur after receiving the New Construction/Change of Service Application form due to workloads or missing information and documents required on the form submittals.

**Project Management:** Includes Property Research, System Design/Drawings, Easement/Permit Requirements, Site Meetings, Field Staking, Staking Sheets, Material Pick Lists, Calculate Estimates, Transformer Deposits, Construction Deposits (if required), Contract Preparation and Construction Invoicing.

**Member Readiness:** Includes Driveways Installed, Building Sites or Foundations Established or Located, Overall Site Preparation (Sub-Grade) with Final Grades at Equipment Locations, Easements Executed, Inspections Completed, Contracts Signed, Electric Service Request Form Submitted, and Invoices Remitted.

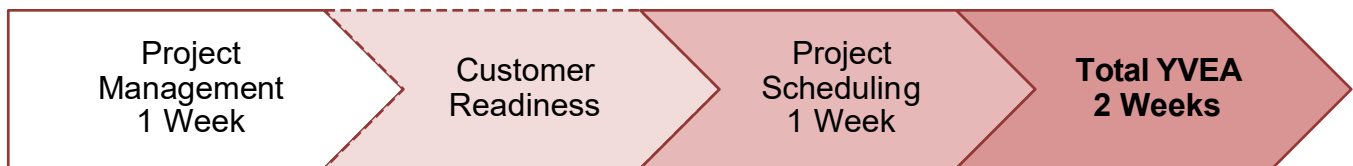
**Project Scheduling:** Includes Material Orders, Procurement, Delivery, Line Locates, Permit Issuance, Installation Scheduling, Construction and Clean-Up.

Prior to the start of construction, YVEA may require a Pre-Construction meeting with the owner/developer and electrical contractor to confirm customer readiness and adherence to YVEA requirements.

*\*The following Project Timeline categories are provided as a guide only. Actual project time may be affected by labor and material availability, field conditions, extraordinary design/permit applications, and member/developer or contractor readiness.*

**Service Installations**

- Installation of new YVEA meter pedestal (at existing transformer) for temp to permanent residential single family and duplex services
- Installation of new overhead service (from existing pole) with approved inspection
- Installation of underground service (from existing transformer or pedestal) in member supplied conduit, with approved inspection
- Meter installations for construction temporary or permanent residential services
- Area Lighting Installations



**Small Scope Project**

- 1-Phase OH (overhead) transformer installation on existing pole with new service
- Relocation of existing OH (overhead) residential service or conversion to UG (underground) service
- 1-Phase UG (underground) transformer installation at existing YVEA facilities with new service
- Relocation of existing UG (underground) residential service-trench and conduit provided by member



**Medium Scope Project**

- 1-Phase OH (overhead) and UG (underground) primary line extensions
- Relocation of 1-Phase OH (overhead) or UG (underground) facilities
- Upgrade, install or remove 1-Phase transformer
- Street lighting installations



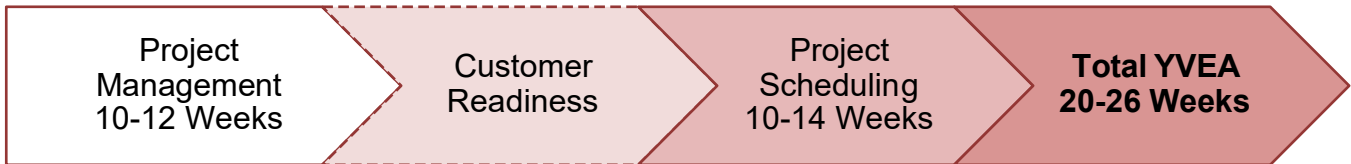
**Large Scope Project**

- 3-Phase OH (overhead) and UG (underground) primary line extensions
- Relocation of 3-Phase OH (overhead) or UG (underground) facilities
- Upgrade, install or remove 3-Phase transformer

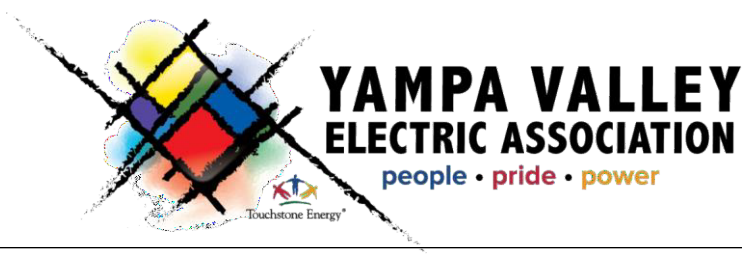


**Complex Scope Project**

- New Residential Subdivision
- New Commercial/Industrial Park
- New Condominium/Apartment Complexes



*\*YVEA recognizes that members may have projects with special requirements; we are committed to working with you to help meet your required service date.*



## V. INSPECTIONS

### A. INSPECTION REQUIREMENTS

#### ***Colorado & Wyoming Electrical Inspections***

A service entrance (meter socket on building, or customer owned meter pedestal) is required to be inspected by the Electrical Inspector before final connection can be made. State law (Title 12 Article 23-116 C.R.S. 1973) states that no utility shall provide service to any person required to have electrical inspection without proof of final approval. State Inspections are required only on the member side of the meter.

The member or member's Electrical Contractor must obtain an electrical permit from the governing agency prior to work starting. It is the responsibility of the member to contact the inspector when the work is ready for inspection.

When the work is approved, the inspector will tag the meter base with an approved sticker. When the governing agency has approved the electrical work, the inspector will submit approval to YVEA via email. Once YVEA Field Representatives receive the inspection approval they start the process for the service installation. (*See service installation timeline*)

### B. INSPECTION CONTACT INFORMATION

The **Local Authority or State Electrical Inspector** must inspect and approve the installation before it can be connected by YVEA. Below is the list of contacts for inspections:

#### ***Colorado***

**Routt County Regional Building Department (970) 879-0013 (Inspection Line)**

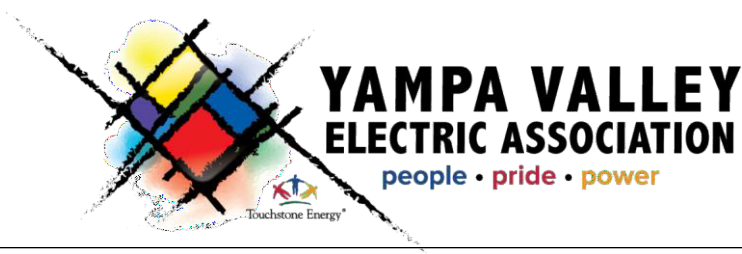
#### **Inspection Staff Members**

Don Marchbanks, Combination Inspector  
PH: (970) 870-5331 Email: [dmarchbanks@co.routt.co.us](mailto:dmarchbanks@co.routt.co.us)

Tom Cook, Electrical Inspector  
PH: (970) 870-5339 Email: [tcook@co.routt.co.us](mailto:tcook@co.routt.co.us)

Ron Norton, Combination Inspector  
PH: (970) 870-5371 Email: [rnorton@co.routt.co.us](mailto:rnorton@co.routt.co.us)

Silas Ebbert, Combination Inspector  
PH: (970) 870-5347 Email: [sebbert@co.routt.co.us](mailto:sebbert@co.routt.co.us)



Inspectors Work Hours: Monday-Friday 7:00 AM to 3:30 PM  
Inspections Performed Between 7:30 AM to 3:00 PM

The state electrical inspectors cover these counties and contact DORA or local building department to schedule inspections.

**Moffat County Regional Building Department (970) 826-2013**  
**Eagle County Regional Building Department (970) 328-8761**  
**Grand County Building Department (970) 725-3255**  
**Rio Blanco County Building Department (970) 878-9450**

***Wyoming***

**Carbon County (307) 328-2651**

**C. INSPECTION OF MEMBER INSTALLED SERVICE CONDUIT**

YVEA requires that any approved house mounted single or duplex residential meter installed service conduits by the applicant/member shall be inspected by YVEA Engineering personnel prior to backfill. YVEA will not pull service wire into any conduit that has not been inspected. Members are responsible for meeting YVEA's trench specifications and YVEA's Inspection Procedures which are included in the appendix of this document. YVEA is not responsible for costs associated to these trenches including dirt or rock work.

**D. INACTIVE SERVICE INSPECTION**

After twelve (12) months of a service being disconnected or de-energized, the property owner must obtain an electrical inspection by the Electrical Inspector and an Engineering field visit to verify a safe system still exists. Upon receipt of the electrical inspection, YVEA will connect and energize the system.

**E. CALL BEFORE YOU DIG-811**

For all underground utility line locates contact the Utility Notification Center of Colorado (UNCC) by dialing 811 at least three (3) business days prior to starting any excavation. YVEA or YVEA sub-contractors will not be responsible for damage to underground facilities that are member-owned and have not been accurately located; including, but not limited to septic tank(s), sewer line(s), irrigation pipe(s), sprinkler(s), leach field(s) or any other facilities.

## **VI. GENERAL INFORMATION**

### **A. STANDARD VOLTAGES AND PERMISSIBLE VARIATIONS**

YVEA offers the following standard voltages and variations of service. All service is provided at 60Hz.

#### ***Standard Voltages, All Construction***

- 120/240V Single-Phase, Three-Wire (600A maximum service)
- 120/208V Three-Phase, Four-Wire, Wye Connection
- 277/480V Three-Phase, Four-Wire, Wye Connection

#### ***Permissible Voltage Variations, Overhead Construction Only***

- 277/480V Single-Phase, Three Wire (Irrigation Only)
- 120/240V Three-Phase, Three Wire, Open-Delta
- 120/240V Three-Phase, Four-Wire, Closed-Delta
- 240/480V Three-Phase, Three Wire, Open-Delta

#### ***Permissible Voltage Variations, Primary Metered (Where Available)***

- 7200/12470V Three-Phase, Four-Wire, Wye
- 14400/24900 Three-Phase, Four-Wire, Wye
- 44kV, Three-Phase, Three-Wire, Wye
- 69kV, Three-Phase, Three-Wire, Wye



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## **B. STANDARD DISTRIBUTION TRANSFORMER SIZES**

YVEA provides the following transformer sizes and configurations

### ***Single-Phase OH/UG Transformers & Banked OH Transformers***

- 10kVA
- 25kVA
- 50kVA (Maximum Three Phase Overhead Banking)
- 75kVA (Pad Mount Only)
- 100kVA (Pad Mount Only)
- 167kVA (Pad Mount Only)

### ***Pad Mount Three-Phase Transformers***

- 75kVA
- 150kVA
- 225kVA
- 300kVA
- 500kVA
- 750kVA (277/480V Only)
- 1000kVA (277/480V Only)
- 1500kVA (277/480V Only)
- 2500kVA (277/480V Only)

## **C. SPECIAL CONSIDERATIONS FOR MOTOR LOADS**

Additions of motor loads to the YVEA system have special requirements and this includes the submittal of a Motor Load Form for all new motors over 10HP. In addition to the submittal of the Motor Load Form the following recommendations/constraints are also to be followed:

- Motor loads with variable frequency drives may require upgrading transformer size (pole class may have to increase), decreasing transformer impedance, increasing service wire size, decreasing service wire length and harmonic filters to reduce Total Harmonic Current Distortion at the member's meter (per IEEE Standard 519). These changes will be at the member's expense.
- YVEA strongly recommends electrical protection on three-phase motors. This protection should include loss-of-phase, reverse phasing and low-voltage protection (including low-voltage protection for single-phase motors). YVEA will not assume responsibility for damages related to a member's lack of protection.
- Motor loads should be compensated for their reactive power usage by installation of shunt capacitors. Adding properly sized shunt capacitors will reduce the

possibility of power factor penalties being assessed on the member's bill.

- New installed motors or any other load shall cause less than 3% voltage flicker (per IEEE Standard 141) at the member's meter.
- Installation and/or operation of single-phase motors greater than 10 HP are not allowed without written approval by YVEA.
- Installation and/or operation of three-phase motors greater than 25 HP are not allowed without installation of an appropriate technique of limiting the motor starting current to be approved in writing by YVEA.

#### **D. LOAD LIMITATIONS AND LOAD BALANCE**

Single Phase loads on the YVEA system shall be limited in size and all members of YVEA are required to balance their loads to reduce system losses and possible mis-operation of YVEA system protective devices. The following constraints are placed on services:

- New single-phase loads shall not exceed 600 amps and lower limits may apply in certain areas. If the service requires larger capacity the applicant will need to request three-phase service.
- New three-phase distribution loads shall not exceed 2500kVA and lower limits may apply in certain areas. If the service requires larger capacity the applicant will need to request three-phase transmission service.
- Member's load shall be arranged:
  - o Between the 120-volt legs on single-phase to not exceed 60% of the member's total connected load.
  - o Between the three phases on a three-phase service not to exceed 10% unbalance (Percent Unbalance = maximum phase current deviation from the average current times 100 divided by the average of the three phase currents).
- Members accepting three-phase service from an open-delta or center-tapped closed-delta transformer bank shall sign a liability waiver indicating the member's acceptance of potential hazards due to voltage unbalance.

## **E. FAULT CURRENT AND ARC FLASH**

YVEA provides a Maximum Available Fault Current Table that is available at [www.yvea.com](http://www.yvea.com). Maximum available fault current calculations use the "infinite bus" method, with impedances determined by the mean value of YVEA equipment inventory. According to the State of Colorado electrical inspectors, this value may be used in satisfying the criteria of NEC 110.24.

### ***Equipment Ratings***

The value from the Maximum Available Fault Current Table may also be used to determine a conservative AIC rating for a breaker panel (providing that the next higher transformer size is used). YVEA does not recommend or condone using this value for any other electrical purpose, including arc flash analysis. Injury to personnel, including death, and damage to equipment may result.

### ***Arc Flash and Electric Shock***

Due to the possibility of electric shock and/or arc flash, YVEA strongly recommends when members are performing maintenance work on or near exposed electrical equipment that their electric system be de-energized or be worked on only by a qualified licensed electrician using appropriate personal protective equipment.

### ***Arc Flash Analysis***

If an Arc Flash analysis is required to be performed at an installation it is up to the applicant/member to submit a request for fault current at the location. YVEA will provide this data if requested, however, the fault current may vary depending on conditions of the system which are subject to change with system improvements, equipment replacement, back-feeding and switching. YVEA provides fault current calculations which are valid for the system that existed at the time of the analysis. Because of the potential for the fault current to change, YVEA does not assume any responsibility for events resulting from the use of the fault current data by the applicant/member or any of their agents.

## **F. BACKUP GENERATORS**

All backup generator installations must have a UL Listed transfer switch installed in accordance with the National Electrical Code. Transfer switch installations must be inspected by the appropriate Electrical Inspector. The member must provide YVEA with a copy of the electrical permit for a transfer switch installation and notify YVEA of the generator installation and size.

## **G. DISTRIBUTED GENERATION**

YVEA has developed a Generator Interconnect Policy which can be found at [www.yvea.com](http://www.yvea.com). This policy should be followed for any distributed generation installations. A separate procedure and application process is required to be followed for these installations.

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## H. ELECTRIC VEHICLE CHARGING

Electric vehicle charging for member's use in a residence does not require YVEA approval however approval is required from the county or state electrical inspector. Please contact the respective building department for these policies and procedures.

YVEA requires that members adding EV chargers to any location other than a single-family home, contact YVEA to ensure that the electrical service at the location is sized appropriately for the EV Charging load.

YVEA may require separate metering for EV Charging and such load may be placed on an EV Charging rate based on the following criteria:

- 1) If the total connected capacity of the charger(s) is less than the existing average load over the last 12 months and the total connected capacity of the charger(s) is less than 50kVA the chargers do not have to be separately metered and only require county or state permitting and inspection. *If service upgrades are necessary, the member may be required to cover the costs.*
- 2) The electric vehicle charging infrastructure at site is REQUIRED to be separately metered if any of the following apply:
  - a. The service is to be primarily for electric vehicle charging.
  - b. The electric vehicle charging total connected capacity is greater than 50% of the average load over the last 12 months (Existing Services).
  - c. The electric vehicle charging total connected capacity is greater than 50% of the total connected load as determined by the load calculations supplied to the building department (New Services).
  - d. If the total connected capacity of the electric vehicle charging is greater than 50kVA.

All member requests for these additions of load are subject to potential transformer and/or service upgrades which YVEA will invoice for and must be paid by the member prior to energization of equipment.

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## VII. ELECTRICAL SAFETY CODE CLEARANCES

The current revision of the National Electrical Safety Code (NESC) is used for the design, construction, maintenance, and operation of YVEA's electric transmission and distribution system. YVEA reserves the right to terminate service without prior notice when a hazardous condition exists. ***A specified clearance shall be maintained over and around state highways, streets, county roads, driveways and any building or property. The National Electric Safety Code, Colorado and Wyoming DOT (Department of Transportation) or the authority having jurisdiction regulates the clearance heights.***

To comply with National Electrical Safety Code requirements, easement and right-of-way finished grades cannot be changed more than six (6) inches by excavation or filling without prior approval of all utility companies involved. Buildings or other structures shall not be constructed within utility easements. ***If the member does construct or requests to build inside allowed NESC clearances, the line will be moved at the member's expense.*** Landscaping within an easement is permissible but shall not violate YVEA's Right-of-Way Maintenance Policy.

A minimum of 10 FT clearance is required around all equipment doors and 3 FT clearance from the back and sides of all YVEA transformers, switch cubicles and switchgear cabinets. This clearance requirement includes any landscaping. If these clearances are not met YVEA will request removal of the clearance violation. In some instances, the clearance requirement will be increased for the safety of YVEA personnel.

In emergency situations YVEA will remove the obstruction and has no responsibility for its replacement.

YVEA requires that no propane tank, underground or overhead, be permitted below overhead power lines or any associated electrical equipment. A minimum of 10 FT clearance is required around all other pieces of electrical equipment.

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## VIII. RIGHT-OF-WAY MAINTENANCE POLICY

Maintenance of YVEA's Right-of-Way Easements is of utmost importance for the association to maintain reliable electric service to all members. Clearance of Right-of-Way prevents damage to the YVEA system due to wildlife, fires, falling vegetation and human error. YVEA uses a three-year cycle for tree trimming and tree removal.

The following guidelines shall be used when maintenance of right-of-way is performed on the YVEA system.

- YVEA shall maintain its right-of-way by performing ground to sky clearing for all overhead lines.
- Trees, shrubs or bushes shall not be planted directly above underground or below overhead utility lines. Before any digging commences, it is the member's responsibility to call 811 to locate the underground utility lines.
- All trees, shrubs or bushes must remain at least five feet on either side of locates and flags designating underground utility lines.
- The member assumes responsibility for all trees, shrubs or bushes that are planted in or around YVEA utility easements. If YVEA must excavate any utilities in the easement or maintain any equipment within the easement, YVEA will not replace or be responsible for replacement of any trees, shrubs or bushes that are required to be removed.
- All overhead triplex/quadruplex services shall maintain a minimum clearance radius of a three and a half (3.5) feet from all trees or branches.
- All open secondary wire shall maintain a minimum clearance radius of five (5) feet from all trees or branches.
- All primary wire shall maintain a minimum clearance radius of ten (10) feet from all trees or branches.
- A YVEA Operations representative will ensure that all tree trimming is complete prior to constructing a job. No lines will be energized until clearances are met.
- The member always has the option of underground construction (at the member's expense) if the necessary overhead right-of-way clearances cannot be made.

**Due to insurance and OSHA regulations, only tree trimming contractors hired by YVEA shall be allowed to work within ten (10) feet of primary conductors.**

## IX. SPECIFICATIONS FOR METER INSTALLATIONS

### A. METER SEALS

Meter seals are placed on meters by YVEA for safety and to prevent tampering. High fault current is possible when removing or installing meters under load and some types of meter bases do not de-energize the service when the meter is removed. This is true for all current transformer installations. Removal of these meters without removing the primary source of power will result in high potentials on the leads and could lead to a flashover.

All devices on the line side of the meter including the meter must remain sealed at all times. Seals must not be cut. Under normal circumstances, only YVEA personnel may remove the seals. It is the applicant/member responsibility to notify YVEA prior to the removal of a meter **FOR ANY REASON. A Meter Tampering fee will be assessed to the member if any meter is found to be tampered with, this fee is stated on YVEA's Schedule of Fees.** Any person who cuts YVEA seals and/or wrongfully obtains electric service by bypassing, tampering with or modifying a meter may be prosecuted.

To obtain approval to cut any meter seal or before working on any meter the member must call YVEA Dispatch (970) 871-2283 . If work is not coordinated with YVEA, the AML meter will alert dispatch to the removal or bypassing of the meter and a YVEA crew will be dispatched to the location. The removal, relocation or performing of any work on an electric meter without coordinating with YVEA's permission is prohibited.

In emergency situations seals may be removed however YVEA must be notified as soon as possible thereafter.

### B. METER SOCKETS

Meter sockets for any service type, including approved house mounted Single Family and Duplex residential services, are to be supplied and installed by the member.

YVEA does not and will not stock or sell meter sockets for any service type.

All installations require member to supply a socket meeting NEMA 3R, ringless and include a lever bypass type (where applicable). Members are responsible for all maintenance of sockets.

(Suggested meter sockets for service type are provided in the appendix)



## **C. DELIVERY POINT**

### ***OH Services (Residential & Commercial)***

- a. The delivery point shall be at the weather head.
- b. YVEA will install, at the members expense, insulated triplex or quadruplex wire form the transformer pole to the weather head.

### ***UG Single Family and Duplex (2 meter) Meter Pedestals***

- a. The delivery point shall be at the line side of the meter.
- b. YVEA will supply and install, at the applicant's expense, The meter,ground rod, trench and conductors to the Transformer.

### ***UG Single Family and Duplex (2 meter) Approved house mounted Services***

- a. The delivery point shall be at the line side of the meter.
- b. YVEA will install, at the members expense, insulated triplexed cable in empty conduit installed and approved by YVEA from the secondaries to the line side of the meter.

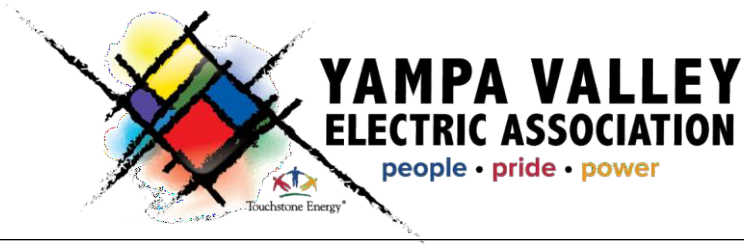
### ***All other UG Services***

- a. The delivery point shall be at the secondaries of the transformer.
- b. The applicant will provide and install, at their expense, all material.

## **D. CONNECTION TO THE DELIVERY POINT**

YVEA will make permanent connections between the member's electric service wiring and YVEA's system. Unauthorized connections are not permitted. YVEA will furnish, maintain and retain ownership of all meters and instrument transformers. Terminations will only be allowed on the exterior of the facility being metered. No YVEA termination will be inside or enter the member's facility other than approved CT rated installations.

YVEA will install meter pedestals for all new single family and duplex residential services at existing YVEA equipment or as a part of single-phase line extensions to these service types.



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***NOTE: As of 3.12.19, re-energizing rewired, altered, repaired or disconnected single-phase or three-phase self-contained 480 V services require conversion to instrument rated metering (at the member's expense).***

**YVEA is not responsible for member owned facilities, such as, but not limited to meter bases/loops.**

## **E. METER LOCATIONS**

### ***Location Approval***

All meter locations, regardless of use, will be approved by YVEA. Any meter location not discussed and approved by YVEA is subject to relocation at the applicant's expense prior to energizing.

### ***Metering Location Requirements/Constraints***

The following requirements and constraints are placed on all metering locations

- METERING, SERVICE WIRE CONDUIT, CT CABINETS AND ANY OTHER ELECTRICAL EQUIPMENT SHALL NOT BE INSTALLED WITHIN A THREE (3) FOOT RADIUS OF ANY NATURAL GAS OR PROPANE INFRASTRUCTURE
- GUTTERS ARE NOT ALLOWED PRIOR TO THE METER
- NO DISCONNECTING MEANS SHALL BE INSTALLED PRIOR TO THE METER ("HOT" Sequence).
- Installation shall have a continuous wire from the secondary connection to the line side of the meter or C.T.'s.
- Member owned Meter Pedestals shall be located:
  - 1) at the lot corner or lot-line
  - 2) within 5' of existing YVEA equipment
  - 3) and Always Accessible and Safe.

- If a member-owned meter base/loop is located on a YVEA secondary pole, it will be at the member's expense to relocate their facilities in the event the pole is damaged or needs to be replaced.
- Meters shall not be located in any area considered hazardous or flammable or where reading, testing or servicing of the meter may become impractical, (i.e. behind fences, enclosures, or shrubs, under decks, around dangerous animals, or inside structures). If meters are not accessible, they will be moved by YVEA at the member's expense.
- Meters shall be located no less than 4' and no more than 6' above final grade.
- No steps or stairways will be permitted as access to meters.
- Meters are owned installed and maintained by YVEA.
- Duplex and Multiple meter sockets must each be clearly marked with permanent metal scribed tags ("Brass Tags"), at the member's expense, and correctly identify the address it serves. Errors of tagging these facilities is the responsibility of the member to correct.
- Correct meter labels and appropriate addresses shall be verified by member's electrician before permanent meters will be installed.
- YVEA will not attach its supply wires to more than one meter on a single structure, unless the meters are grouped together in such a manner that all are energized through the same transformer.

## **F. METERING INSTALLATIONS**

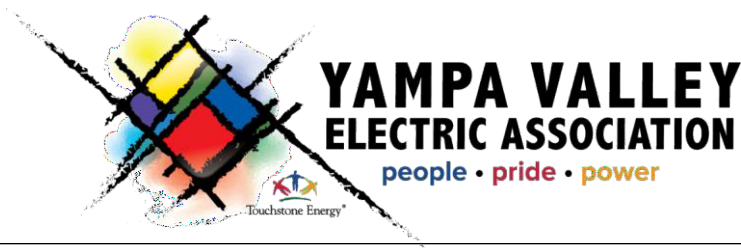
All installations shall follow accepted industry best practices and at a minimum shall meet all current NEC, NESC, State, County, Local codes governing the installation.

YVEA will not connect any service non-compliant with the above. Any changes are at the expense of the member.

### ***Self-Contained Metering***

Self-contained metering for either single-phase or three-phase is available for 120/240 V and below; higher voltages must be CT-metered.

When members supply the socket for single-phase services requiring power at 120/240 having a service rating of 200 amps or less, a properly sized self-contained 4 jaw meter socket SHALL be installed. A 120/208 single-phase self-contained network meter must be provided with a 5-terminal socket with the 5<sup>th</sup> terminal in the nine o'clock position and a lever bypass switch.



The member provides and maintains all multiple meter stacks. Any commercial account that requires a self-contained meter, including network meters, must have a manual lever bypass switch. All other sockets must receive prior approval before the metering equipment is ordered. A sample of the meter socket shall be sent, including job name and number to:

Yampa Valley Electric Association, Inc.  
Attention: Metering Department.  
2211 Elk River Road  
Steamboat Springs, CO 80487

For single-phase services with a capacity greater than 200 amps and including, but not exceeding 400 amps, a 400-amp (320-amp continuous rating) meter socket will be installed with a manual lever bypass switch, locking jaws and a disconnect or disconnects that will de-energize the entire panel. Disconnects must be accessible to YVEA personnel. The continuous load for these services shall not exceed 320 amps. Meter bases with a continuous rating of 400 amps or sockets for bolt-in meters are not acceptable.

In the event of a failure, the member or a licensed electrician will replace the meter socket and wire within the service mast. Inspection shall be required by the State Electrical Inspector if wire within service mast must be replaced. YVEA will not be responsible for any code violations found outside the scope of YVEA work.

### ***Instrument Transformer (CT) Metering Installations***

- Three-phase services greater than a 200 A or greater than 240 V phase-to-phase shall be CT-metered.
- Single-phase 120/240 V services greater than 400 A shall be CT-metered.
- CT's will be located in a CT cabinet furnished by the member, unless otherwise approved by the YVEA Engineering Department. For CT cabinets 800 amps or less, the member will provide a UL-Listed bar-mounted CT cabinet. For CT cabinets more than 800 amps (which require switchgear cabinet) the metering will be approved by the YVEA Engineering Department.
- The delivery point will be the member furnished bar-mounted CT cabinet or weatherhead. The cabinet must meet minimum NEC size requirements.
- For terminations in the bar-mounted CT cabinet, the member will provide the approved connectors and terminate all wires within the box.
- Member will provide conduit and YVEA will pull wire to the CT meter.
- Members will not have access to YVEA's transformer, only YVEA will have this access. YVEA will make all connections in the transformer.
- Terminations will only be allowed on the exterior of the facility being metered. No

- YVEA termination will enter the member's facility.
- CT meter sockets shall not be mounted on switchgear doors or cabinets.

***Single Member or Multiple Members-CT Metering***

For single member or multiple member services, metering CT's shall be installed in a bar mounted CT cabinet mounted on the member's facility and furnished by the member. For CT cabinets 800 amps or less, the member will provide a UL-listed bar-mounted CT cabinet. For CT cabinets more than 800 amps, the CT cabinet specification will be approved by the YVEA Engineering Department. The meter shall be mounted next to the CT cabinet at the member's facility. The delivery point will be the member furnished bar-mounted CT cabinet or weatherhead.

A YVEA Engineering Manager must approve any exceptions to the above in writing.

## **G. SERVICE ACTIVATION**

Meters will only be scheduled for issuance to YVEA staff to install and energize your service once the electrical inspection is emailed to YVEA by the inspecting agency, receiving a passing sticker on your service does not initiate YVEA to schedule your service completion, please allow time for the inspector to release the email to YVEA as this may not occur the same day or longer depending on the agency.

Once the electrical inspection is emailed to YVEA, the following process will be used to install the meter and energize your service, **Plan Ahead**, allow time for YVEA to process requests and invoice payments, see the project timeline for **Service Installations**:

1. YVEA receives an email release of an electrical inspection and its location
2. YVEA Field Services will match up the inspection to an existing Start/Stop Service Form already in our system and issues a Work Order to your project.
  - 2.1. If no Start/Stop Service Form is in our system, YVEA cannot continue to the invoicing or scheduling steps of your job!
3. Field Services will then add the specific meter unit to the Work Order Pick List, create an invoice for the type of meter being installed and post it to the Service Order and move it forward it to the YVEA Accounting Department to issue to you for payment if required.
4. Once the invoice is paid, the project moves to the associated Warehouse in your District to charge out the meter and they then forward the project to the Operations Department to pick up your meter(s) and Schedule your installation.
  - 4.1. Additional steps for Instrument Rated Metering will be required as a part of the scheduling and may add additional time to complete your service.

## **H. DRAWINGS**

YVEA has developed a set of service drawings for reference when construction service facilities. These drawings are shown in the appendix need to be referenced and followed for any installation. Questions on these drawings can be directed to the YVEA Engineering Department. Please have your service order number for reference when contacting YVEA.

