



**Welcome**



**All attendees will be muted to reduce audio distractions, but we want to hear from you!**

**Please use the chat feature to submit any questions for TEP.**

**Look for responses to questions through e-mail at a later date, and the presentation will be posted online.**

## Team Introductions

Technical Services Team

Renewables Team

## Safety Moment

3:10 Guest Speaker – AriSEIA

3:40 Review of Project Statuses

Upcoming Changes

Technical Services Updates



# TECHNICAL SERVICES



**Art Fregoso**  
Manager



**Rafael Ortiz**  
Engineer



**Cesar Beltran**  
Sr. Technical Specialist



**Stephen Garcia**  
Sr. Technical Specialist



**Don McAdams**  
Principal Energy Engineer  
Distribution Planning

# RENEWABLES DEPARTMENT



**Anthony Lombardi**  
Supervisor



**Blanka Anderson**  
Lead Program Coordinator Sr Program Coordinator



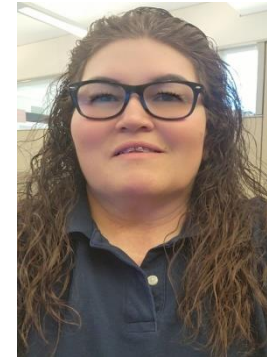
**Patricia Gallegos-Duran**



**Kayla Randall**  
Sr Program Coordinator



**Allison Smart**  
Program Coordinator



**Doreen Ortega**  
Program Coordinator II



## Pop Quiz: Which dog should be treated with more caution?

Looks can be deceiving. Even small dogs will protect their territory. Please treat any domestic animal you encounter as an Access Issue and ensure the information is documented in Power Clerk.

Any gate or fence should also be noted as an access issue, whether the gate or fence is locked or not.



### Some notable highlights:

Customers regularly believe their dogs are friendly and will let employees into their home.

Always insist that dogs be put away for everyone's safety.

Dogs commonly bite employees making sudden grabbing movements (ex: reaching for gate or door handle).



### Tips from our field training:

Never run from a dog

Don't turn your back

Don't rely on the owner's assurances

Don't assume the dog is friendly

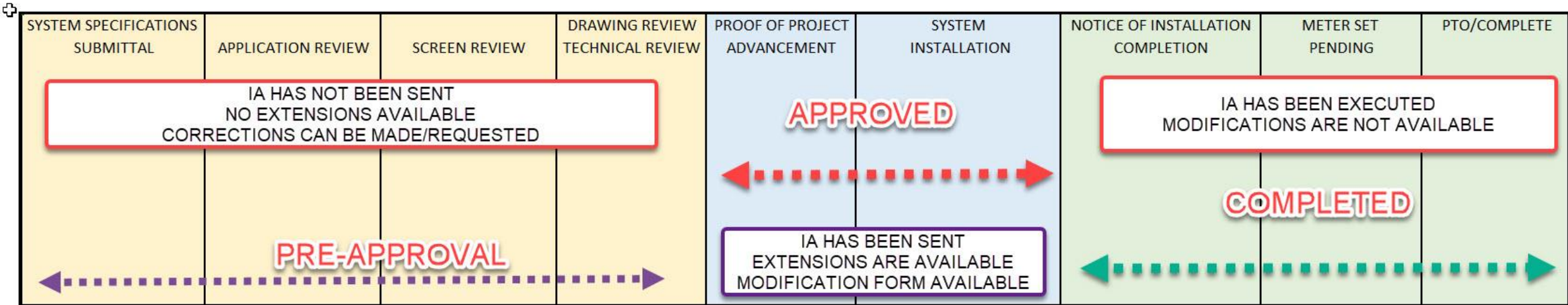
Don't stand face to face in a threat



# TEP Guest Speaker



# FLOW OF IDEAL PROJECT



<p style="text-align: center;"><b>System Specifications Submittal</b></p> <p style="text-align: center;"><u>MVP of Statuses</u></p>	<p style="text-align: center;"><b>Proof of Project Advancement</b></p> <p style="text-align: center;"><u>Protecting the Investment</u></p>	<p style="text-align: center;"><b>System Installation</b></p> <p style="text-align: center;"><u>The Starting Line</u></p>	<p style="text-align: center;"><b>Notice of Installation Completion</b></p> <p style="text-align: center;"><u>The Finish Line</u></p>	<p style="text-align: center;"><b>Permission to Operate/Complete</b></p> <p style="text-align: center;"><u>The End Game</u></p>
<p><b>Create a Strong Foundation</b></p> <ul style="list-style-type: none"> <li>• TEPDG Project Number/RCP Rate locked in</li> <li>• Customer Information/Address locked in</li> <li>• 90 Days   Submit what you intend to build in the field</li> <li>• Access Issues</li> </ul>	<p><b>Notify Intent to Build</b></p> <ul style="list-style-type: none"> <li>• A permit number is required for <b>every</b> solar project</li> <li>• Permit triggers Work Order Creation for Design</li> <li>• Work Order will be created within <u>5 business days</u></li> <li>• Work Order will be visible in Power shortly after creation</li> </ul>	<p><b>Construction Continues</b></p> <ul style="list-style-type: none"> <li>• Contact Design with Work Order Number to discuss scheduling</li> <li>• Modification Request Form available for Major Changes such as adding/removing Power Kill request; change in MOI; any variance from Service Requirements</li> </ul>	<p><b>Notify Construction is Finished</b></p> <ul style="list-style-type: none"> <li>• Design Inspections required for Main Panel work and/or Line Side Taps must be completed/passed, prior to submitting NIC</li> <li>• As Built Drawings need to match approved project and/or include minor modifications</li> </ul>	<p><b>Receiving PTO from Utility</b></p> <ul style="list-style-type: none"> <li>• Customer will receive a Door Hanger upon meter set with an email to follow</li> <li>• Installer to assist customer to energize system</li> </ul>



<p style="text-align: center;"><b>System Specifications Submittal</b></p> <p style="text-align: center;"><u>MVP of Status</u></p>	<p style="text-align: center;"><b>Proof of Project Advancement</b></p> <p style="text-align: center;"><u>Protecting the Investment</u></p>	<p style="text-align: center;"><b>System Installation</b></p> <p style="text-align: center;"><u>The Starting Line</u></p>	<p style="text-align: center;"><b>Notice of Installation Completion</b></p> <p style="text-align: center;"><u>The Finish Line</u></p>	<p style="text-align: center;"><b>Permission to Operate/Complete</b></p> <p style="text-align: center;"><u>The End Game</u></p>
<p><b>Create a Strong Foundation</b></p> <p><u>VARIANCES:</u></p> <ul style="list-style-type: none"> <li>Request up front</li> </ul> <p><u>EXPANSIONS:</u></p> <ul style="list-style-type: none"> <li>Show <b>entire</b> system on drawings</li> <li>Combine systems through one DG meter</li> <li>New system size in PV Calculator; Existing System Size has own section</li> </ul>	<p><b>Notify Intent to Build</b></p> <ul style="list-style-type: none"> <li>(2) 90-day extensions requests are available</li> </ul> <p><u>Modification Request:</u></p> <ul style="list-style-type: none"> <li>Use sparingly</li> <li>Automatic re-evaluation</li> <li>Permit number <b>must</b> be resubmitted</li> <li>Updated application, new drawings, and Modification Reason</li> </ul>	<p><b>Construction Continues</b></p> <ul style="list-style-type: none"> <li>Keep scheduled power kill appointments</li> <li>Local contact information critical</li> <li>Design Inspections required for Main Panel work and/or Line Side Taps</li> <li>If the DG meter is pulled <b>after</b> the clearance is issued, a 2nd clearance required</li> </ul>	<p><b>Notify Construction is Finished</b></p> <ul style="list-style-type: none"> <li>Great Photos can expedite Inspections</li> <li>Establishing Photo and final site plan in As Built Packet must match</li> <li>System size on As Built drawings and installed system size must match</li> <li>Expansions: Existing &amp; additional equipment must be input in the PV Calculator on NIC form</li> </ul>	<p><b>Receiving PTO from Utility</b></p> <ul style="list-style-type: none"> <li>Mutual goal of a successful meter set</li> <li>5 – 30 days for a meter set</li> <li>Access Issues communicated at System Specifications Submittal help speed up a successful meter set</li> </ul>

## Proposed Equipment Location Photo

## Updated Service Requirement 702

## Updates on Variance Process

## Front Page of Power Clerk

- Photo to show the location of the main service and billing meter with mark-up of where the DG meter socket and DG disconnect will be located

EXAMPLE OF A  
PROPOSED EQUIPMENT LOCATION PHOTO



- The DG meter shall be located within 10 feet of the billing meter within line of sight and not separated by walls, gates or obstructions
- Updated & posted on website April 2024
- Added question(s) in PC to alert Technical Specialist Team if a variance is requested

- Installer will indicate compliance or deviation from TEP Service Requirements
- Technical Services Team will determine if variance will be granted
- Variances are considered for hardship conditions only, not standard practice

- New Users Video Guide
  - Basic Guide for New Power Clerk users

# Application Consistency

- Ensure consistency between drawings and application
- When a modification is required and/or expansion projects
- Clarity on what is existing
- Requesting a DG meter pull when increasing AC conductor size
- If your application does not match drawings, project will not be accepted

New PV info

System Rating: 14.64 kW DC / 13.462 kW CEC-AC  
Inverter Rating: 10 kW AC  
Estimated Annual Production: 20150 kWh

Existing PV

### EXISTING SYSTEM SIZE INFORMATION

Existing Systems kW AC \*  
1

Existing Systems kW DC \*  
1.464

Total PV, New + existing

### - TOTAL AC & DC VALUES -

Total Application kW AC  
11.000 kW  
Total Application kW DC  
16.104 kW

### Step 12 - Power Kill Information

Please answer all questions below.

Do you need a Power Kill or an existing DG Meter Pull? \*

Yes

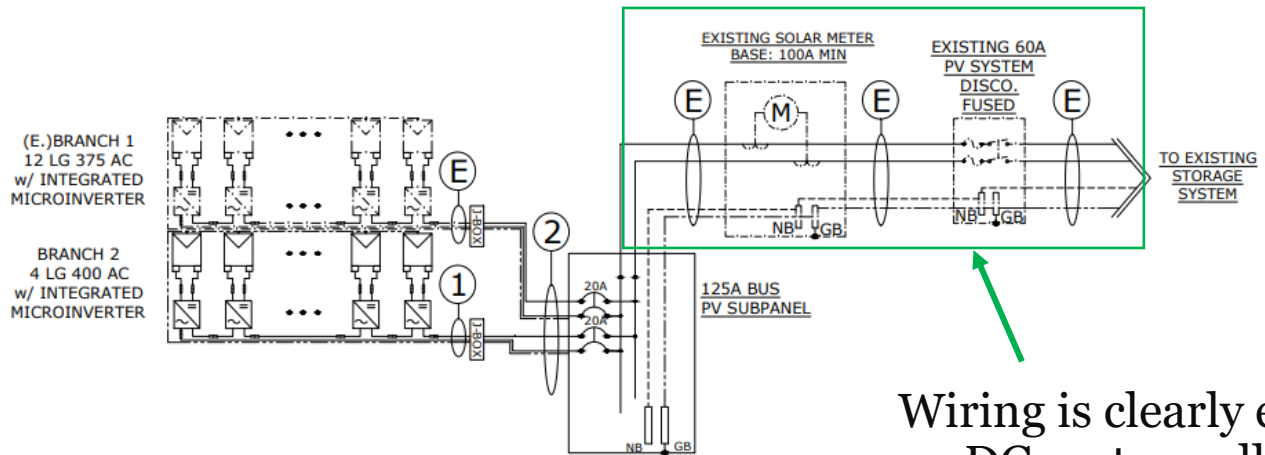
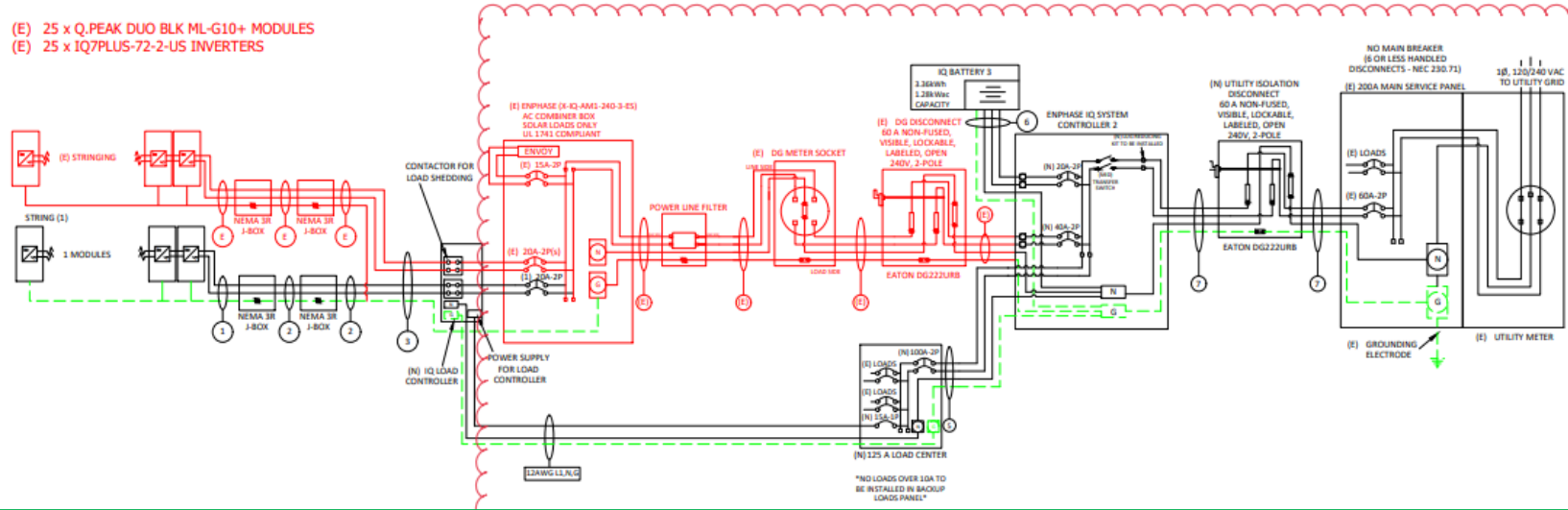
Answer yes if DG meter pull is needed!



# SYSTEM EXPANSIONS & DG METER PULLS

- TEP DG meters are Company property and must remain on the premise.
- This meter is linked to the premise, so this DG meter cannot be used for any other premise.
- Per TEP SRs, only ONE DG meter socket per premise.

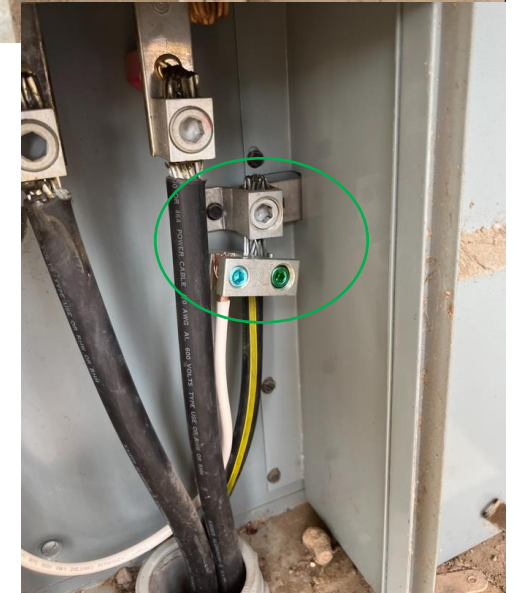
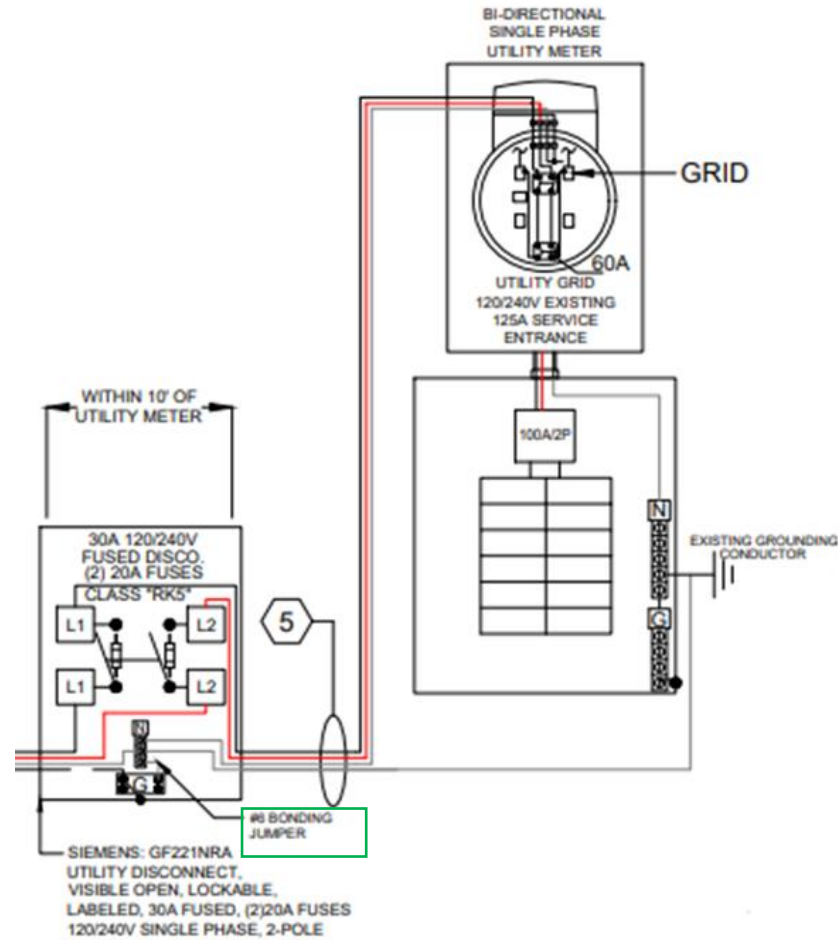
(E) 25 x Q,PEAK DUO BLK ML-G10+ MODULES  
(E) 25 x IQ7PLUS-72-2-US INVERTERS



Wiring is clearly existing,  
no DG meter pull  
required.

# MSA | DG DISCONNECT REQUIREMENTS

- N-G bond will not be accepted by TEP
- A power kill is ALWAYS required
- Disconnect can be fused or not fused
- Neutral must be installed in a manner acceptable to the AHJ and to TEP
- Each utility is unique in their process for reviewing MSAs & Disconnect Requirements
- MSA Form must be signed by our Customer regardless of how the MSA is being used within system



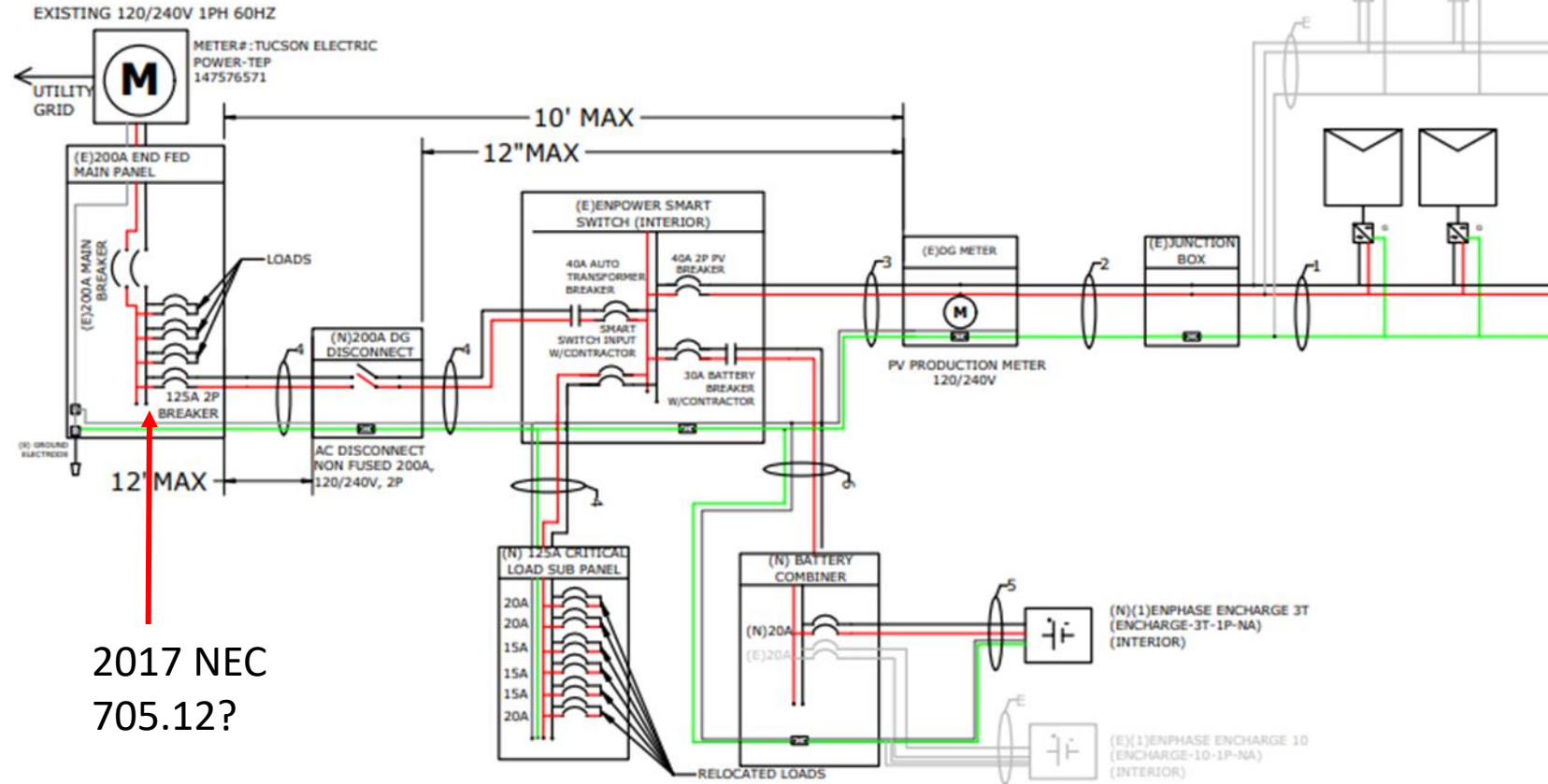
TECHNICAL SERVICES



Tucson Electric Power

# ENERGY STORAGE DESIGN

- TOTAL AC OUTPUT PV + STORAGE
- DG EQUIPMENT CONFIGURATION PER SR-710



2017 NEC  
705.12?

- PV + Storage AC output, main service panel backfed total current.  
Example: 11.4kW AC of PV with 3.84kW AC of storage. Total FLA is 48A PV plus 16A of energy storage = 64A x 1.25 = 80A

# EFFICIENT PROJECT PROCESSES FOR NIC

- NOTICE OF INSTALLATION COMPLETION (NIC)
- ESTABLISHING PHOTO
- IMPORTANCE OF PHOTOS
- AS BUILT PACKAGE
- CURRENT AND ACCURATE SUBMISSIONS

- Ensuring the project is complete and ready for review.
- Accurate depiction of what was installed in the field.

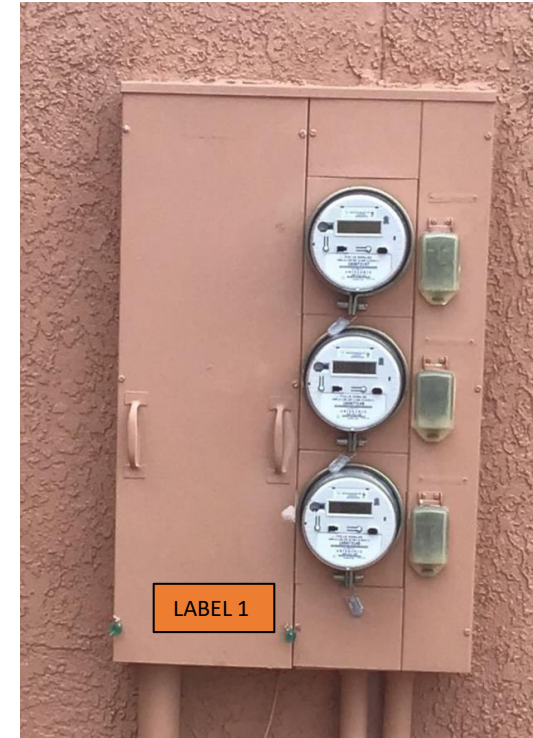
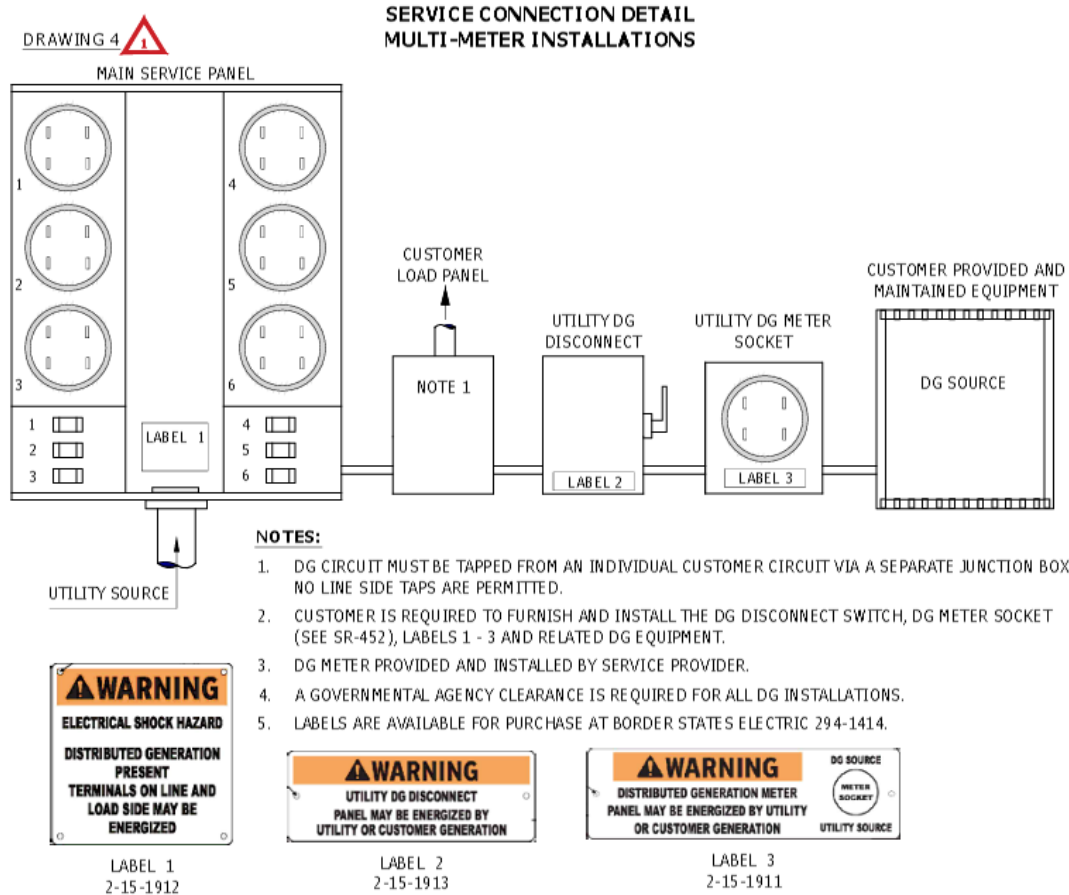


EXAMPLE OF  
ESTABLISHING  
PHOTO

- Critical to be a wide-angle photo, showing all equipment. If the full layout is not included the project will be rejected.
- Gives technical specialist ability to establish where the conduits are going based on the order of equipment.
- Ability to process inspections virtually, faster-the more information the better.
- Gives Technical Team the information on paper with relevant project information for Technical reviews and reference points for NIC inspections.

# LABELING REQUIREMENTS

- Multiple Main Service Meters
- Address Labeling for DG Meter and Dg Disconnect
- Metal Address labels for MSPs





- TEP Manual: <https://docs.tep.com/wp-content/uploads/TEP-Interconnection-Manual-for-Distributed-Generation.pdf>
- Arizona Corporation Commission's (ACC) Distributed Generation Interconnection Rules (DGIRs) Effective 02/25/2020 <https://docket.images.azcc.gov/E000005485.pdf>
- TEP Service Requirements <https://www.tep.com/customer/construction/esr/>.
- PowerClerk: <https://tepdg.powerclerk.com/MvcAccount/Login>
- Please select "yes" to the following application question "Is there energy storage on this project" if there is new or existing solar. Also, please select PV + energy storage under the "technologies" section.
- TROUBLE WITH GETTING THE DOCUSIGN EXECUTED:
  - APPROVAL LETTER IS SENT OUT TO OUR CUSTOMER AND THEIR INSTALLER AT THE SAME TIME AS THE DOCUSIGN SIGNATURE NOTIFICATION. THIS IS A GREAT TIME TO HELP OUR CUSTOMER FIND THEIR EMAIL NOTIFICATION AND GUIDE THEM THROUGH SIGNING THE INTERCONNECTION AGREEMENT
- Email [Renewables@TEP.com](mailto:Renewables@TEP.com) if you would like to schedule some time to meet with the Coordinator Group with your company to help make your experience with TEP smoother.