Solar Installer Meeting

APRIL 2025

We want to hear from you! Please use the Question & Answer Feature for any questions.

Agenda

- Team Introductions
- Safety Moment
- Administrative Review
- Technical Services Updates
- Questions

Technical Services Team

Customer Solar Interconnections Team

CREATING STRONG PARTNERSHIPS

Renewable Energy Installer Liaison – Aiyana Koch-Martinez

Background

- Graduated from the University of Arizona
- Solar industry experience

Role

- Process support for installers
- 1 on 1 meetings
- Bi-directional feedback and information sharing
    - *Coming Soon: Installer Feedback Survey*

Contact

- Renewables@tep.com

SAFETY MOMENT

TEP prioritizes and actively promotes a culture of safety

What happens when there is an ARC flash?

- Current flows between separate energized surfaces or ground
- Explodes outward
- High-intensity flash
- Arc blast pressure wave
- Debris shot through air
- Superheated ball of gas

ADMINISTRATIVE PROCESS IMPROVEMENTS

Working together for a smooth solar journey

CUSTOMER ACCESS COMMUNICATION

Ensuring we set the meter on the first attempt

Common Access Concerns

- Locked gates or Guard Houses
- Locked Gate at the Installation Site
- Medical Equipment
- Pets in Yard
- Remote working and/or Schooling
- Miscellaneous Information: Travel or Tenant in home

UPDATES TO FORMS IN POWER CLERK

SYSTEM SPECIFICATIONS FORM

SYSTEM SPECIFICATIONS FORM

- The Method of Interconnection section will be updated to align with NEC 2023, and we will keep you apprised of our updates.
- Reason for Power Kill section will be rearranged to be **one** dropdown instead of **two**
    - Updates to this section to be completed the first week of May
    - Alignment with TEP data for power kill requests

UPDATES TO FORMS IN POWER CLERK

NOTICE OF INSTALLATION COMPLETION

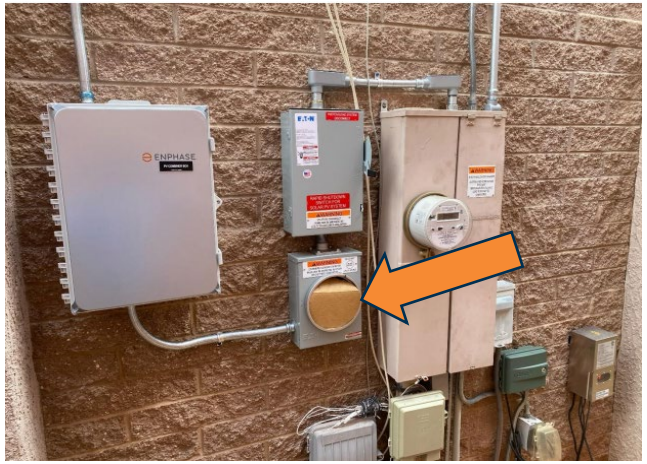
NOTICE OF INSTALLATION COMPLETION FORM

- Updated verbiage to the questions on the form
  - For example: clarifying information about the DG meter for projects with existing solar
- Examples of Minor and Major modifications
- Simplifying the process for inputting expansion equipment information

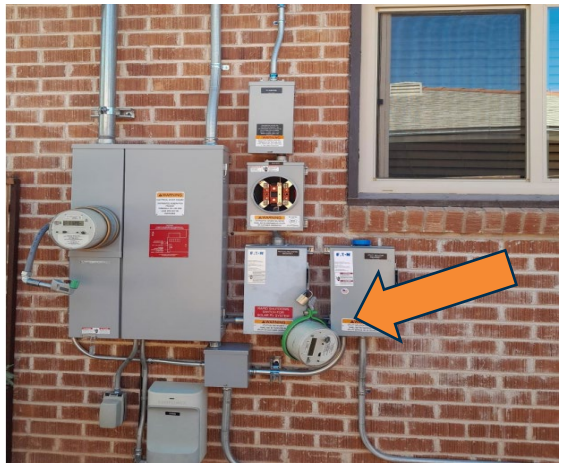
ESTABLISHING PHOTO

PHOTO OF A COMPLETED PROJECT

New System Installation



Expansion | Reset Necessary



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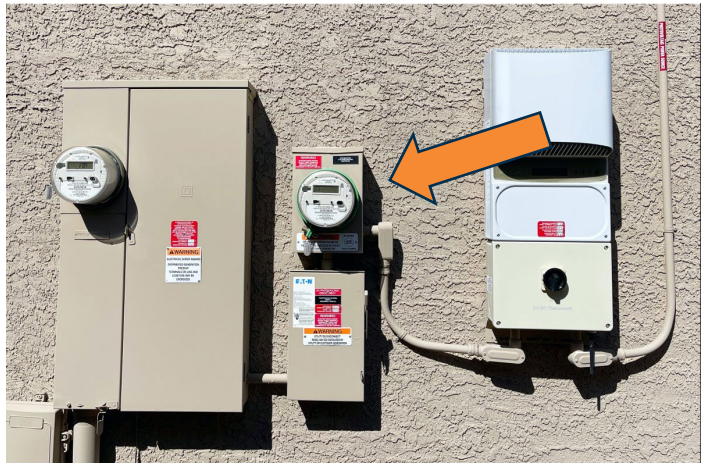
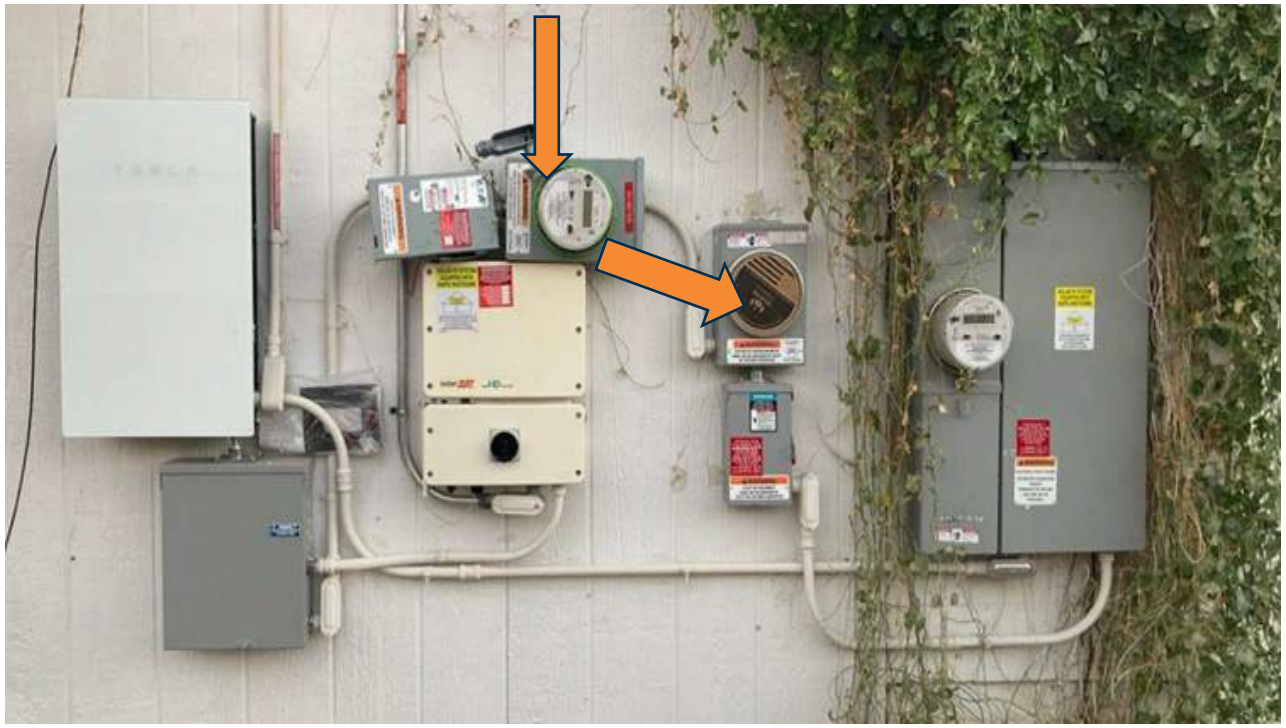


ESTABLISHING PHOTO

Photo of a completed project – This should be the last photo taken

Removing existing system and replacing with a new system
DG meter pull & relocate

Keeping existing system and adding a new system
DG meter pull and relocate



PROGRAMMABLE INVERTERS

Allowing flexibility in equipment

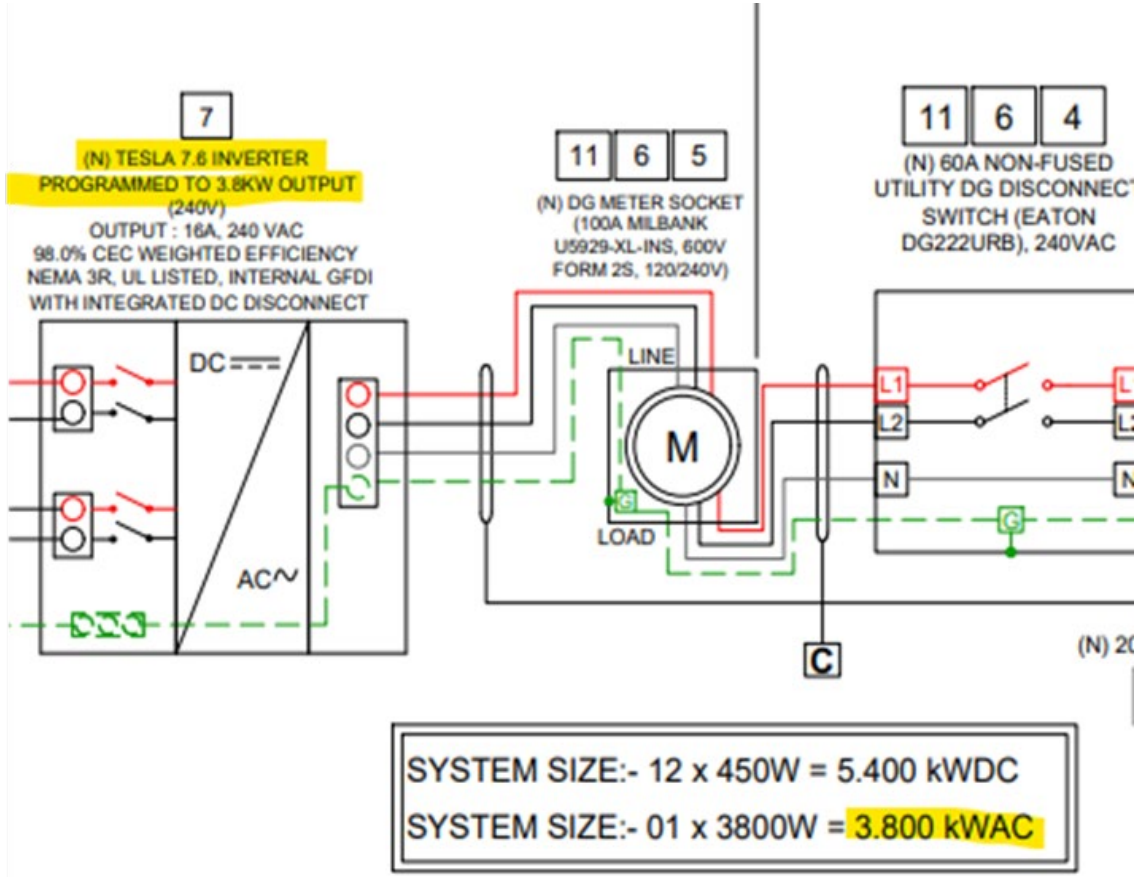
Requirements for utilizing this equipment in TEP territory

Application Submission Requirements:

1) Utilize the Manual Application
2) The three line diagram must include the inverter total kW AC size (inverter name plate rating). The programmed kW AC system size should also be included, but as a separate line item.

Notes:

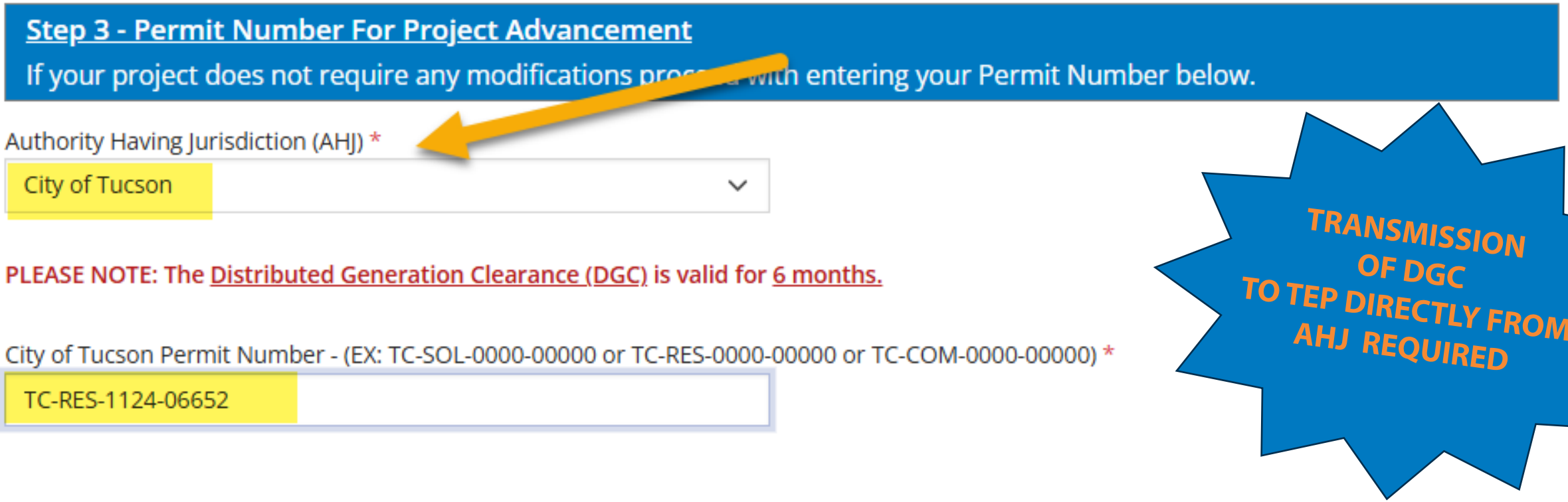
1) Manufacture documentation can be submitted to NIC after programming the inverter, although it is not mandatory.
2) Updates to inverter capacity require an application with TEP for system expansion



PROOF OF PROJECT ADVANCEMENT FORM

ENSURING THE SMOOTH ADVANCEMENT OF PROJECTS

What Is NEW?



TRANSMISSION OF DGC TO TEP DIRECTLY FROM AHJ REQUIRED

Authority Having Jurisdiction to be included in the Drop Down:

Pima County, City of Tucson, Oro Valley, Marana, Sahuarita, South Tucson

CLEARANCE INFORMATION

ADVANCING PROJECTS WHILE ADHERING TO AHJ TIMELINES

Distributed Generation Clearances (DGC)

The following is **NOT** a comprehensive list of our Authority Having Jurisdictions. The below reflect the shortest timeframes for clearance expiration.

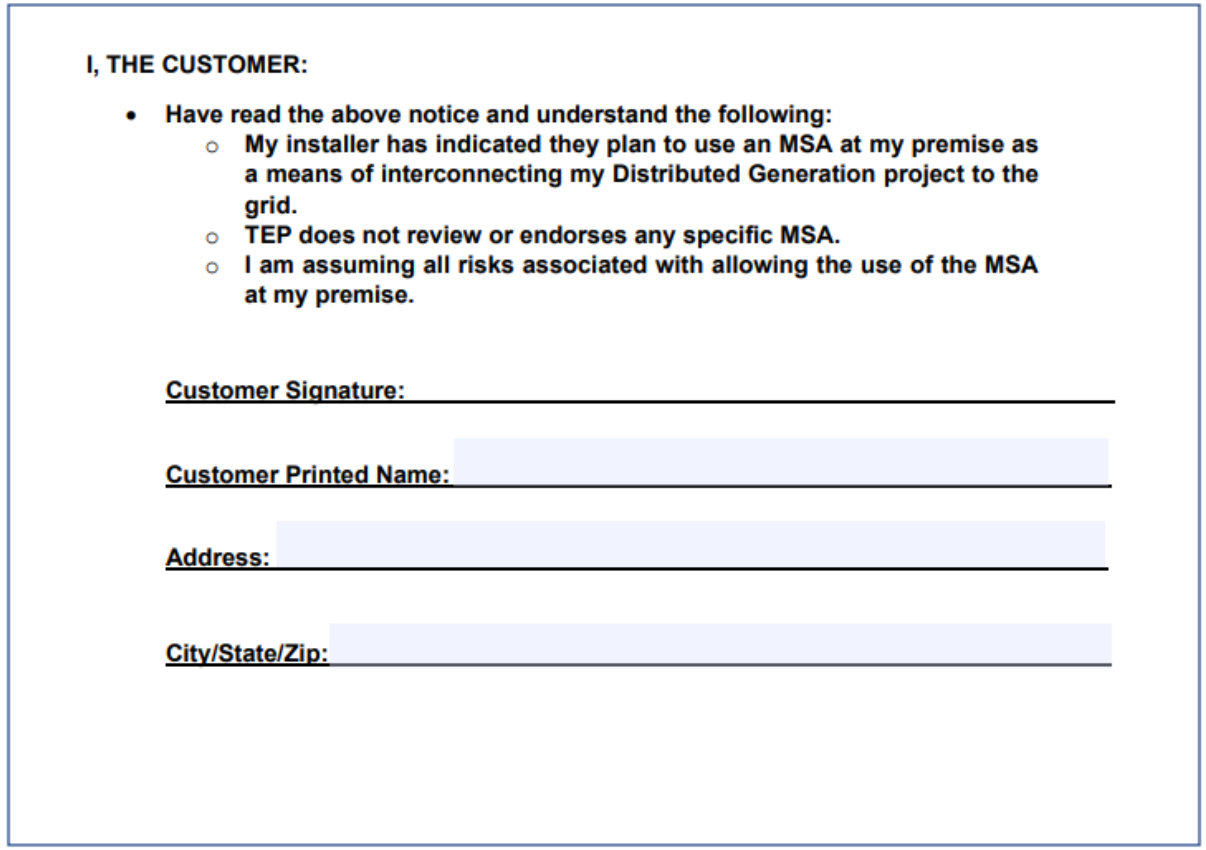
Authority Having Jurisdiction	Clearance Expiration
City of Tucson	6 Months
Town of Oro Valley	6 Months
City of South Tucson	6 Months

*For a comprehensive list please review the TEP website. Please note the same expiration date will be applied to a BAT clearance, when applicable.

MSA FORMS

Documentation Requirements

- For all projects using an MSA on utility equipment, a signed Customer Form is required
- Form may be transmitted for the customer signature electronically
- Upload must include the Electronic Signature Record



METER SOCKET ADAPTER ACKNOWLEDGMENT

Your chosen Installer has indicated they plan to use a Meter Socket Adapter (MSA) to interconnect your proposed Distributed Generation Project.

Customers are permitted to furnish and install an MSA for the purpose of interconnecting power production or whole home electric isolation, where that device does not impede access to the sealed meter socket compartment or pull section of the customer service panel. The MSA shall be UL 414 Certified and rated adequately for the connected equipment. TEP neither reviews nor endorses any specific MSA. Customer assumes all risk associated with use of an MSA.

I, THE CUSTOMER:

- **Have read the above notice and understand the following:**
  - **My installer has indicated they plan to use an MSA at my premise as a means of interconnecting my Distributed Generation project to the grid.**
  - **TEP does not review or endorses any specific MSA.**
  - **I am assuming all risks associated with allowing the use of the MSA at my premise.**

Customer Signature: _____

Customer Printed Name: _____

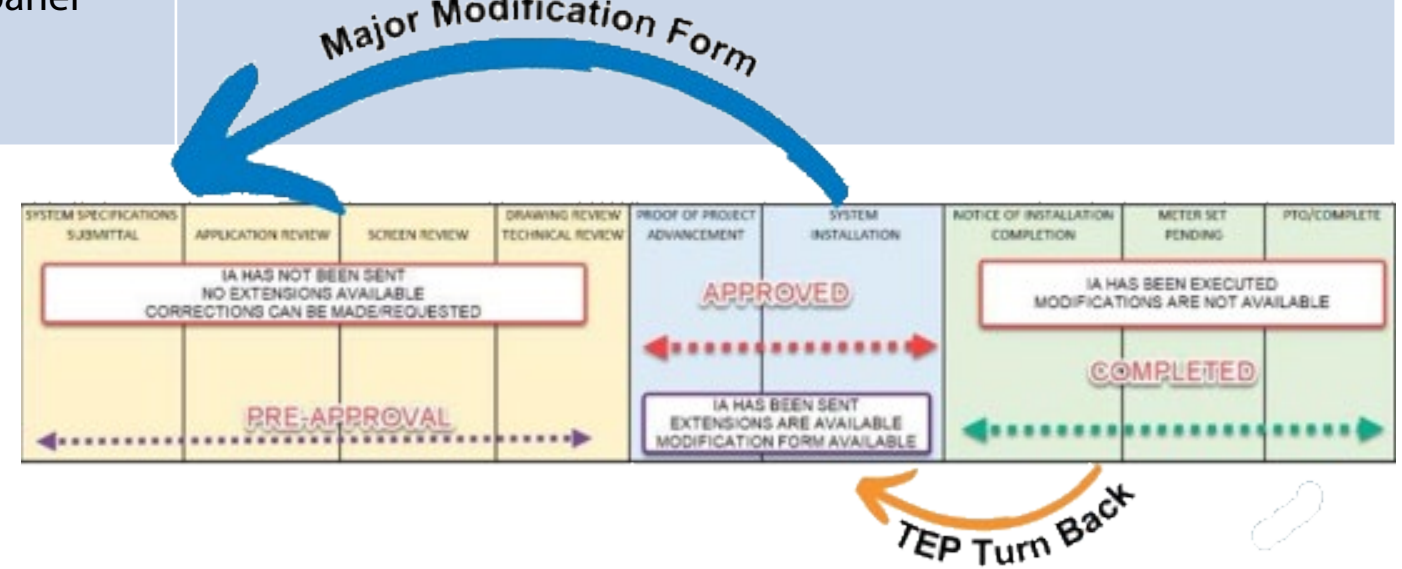
Address: _____

City/State/Zip: _____

MAJOR MODIFICATIONS

When is the MAJOR MODIFICATION FORM necessary?

MAJOR MODIFICATION FORM	MINOR MODIFICATION FORM
• Added or removed energy storage • Added or removed a meter socket • Changed method of interconnection • Increased KWAC size more than 1 kW • Equipment location change that **no longer** meets distance requirements as outlined in TEP SRs • Request (or removal of a request) for a power kill • Example: no longer upgrading the main service panel	• Equipment location change (**the new location must maintain adherence to TEP's SRs** • Change in module manufacturer • Update to module layout • 1 kW AC or less increase • Change in customer contact information



ADOPTING ORPHANED PROJECTS

TEP is here to help & we appreciate YOU for helping our Customers

REQUIREMENTS AND NEXT STEPS

- Solar Records Release Form
- Re-assign Original Project to the adopting installer
  - To include an update of Company name on project
  - Update on Point of Contact
  - Work Order for scheduling

PROGRAM UPDATES AND GUIDANCE

TECHNICAL SERVICES TEAM

Common Reasons for Multiple Re-inspections

Lowering our re-inspection numbers to provide excellent customer service

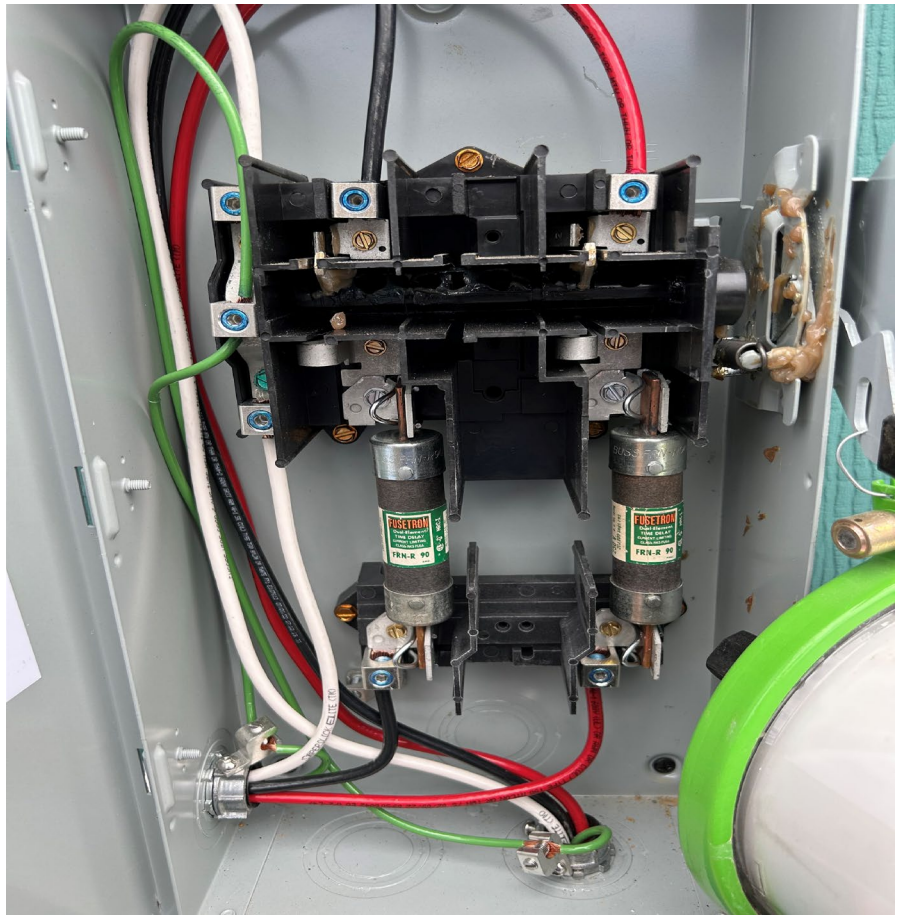
Over half of projects Inspected at NIC will need a Reinspection. Currently Appx. 43% of projects that are re-inspected will need another re-inspection.

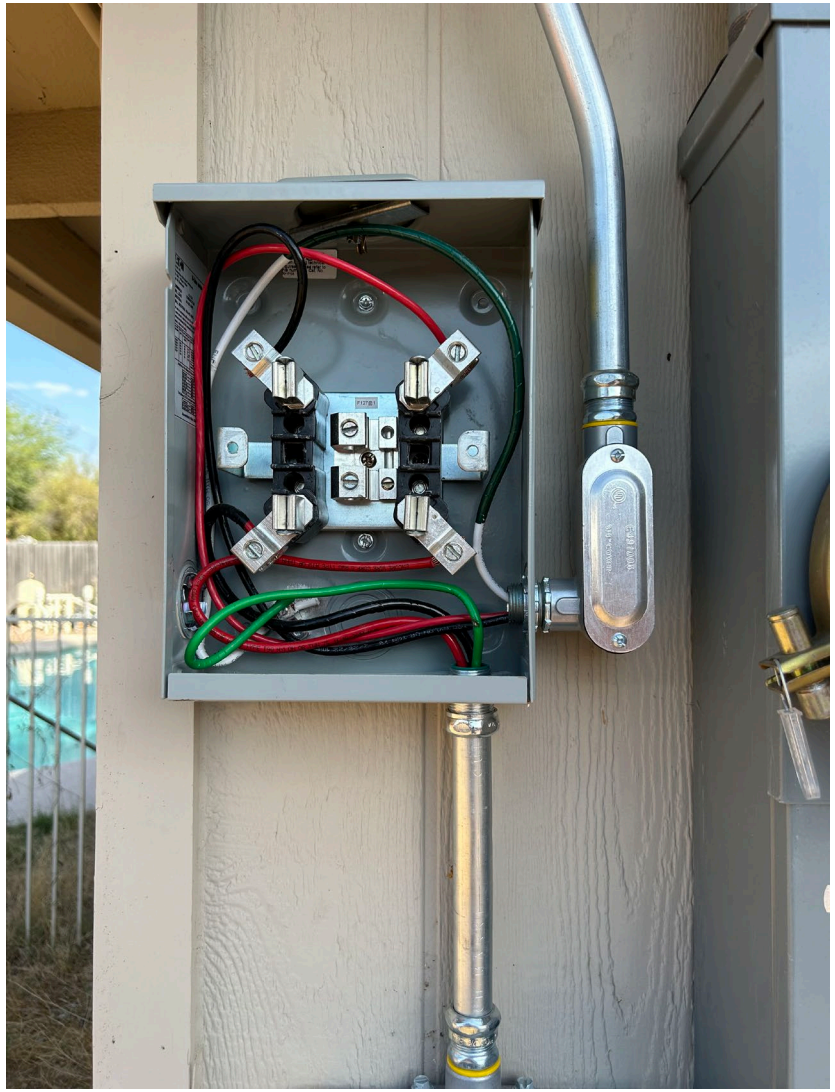
Common items that are rejected

- Incorrect labels/signage.
- Not installing as per approved Site Plan and/or 3 Line drawings.- Site Plan Not Accurate. (Not showing barriers etc.)
- Not providing requested photos or clear and legible photos.
- Grounding/Bonding not completed
- Incorrect wiring of Dg equipment(Line and Load reversed)
- Not being familiar with TEP's Service Requirements; 405,702, 710. Understanding clearances, bonding requirements for Dg equipment, PV/ESS configurations..etc.

PASSING A PHOTO INSPECTION

SUCCESS STARTS WITH A COMPLETE PICTURE





As a general rule of thumb -a photo(s) of the Dg equipment will be requested to review a solar PV project at the Notice of Installation Completion Review(NIC).

Solar installation electrical considerations

Meter Socket Adapter

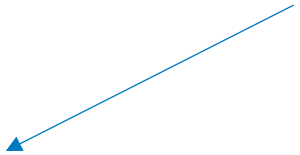
- Uses: Isolation & Interconnection
- Equipment Ratings: Service, Meter Socket and MSA
- Service rating cannot exceed MSA rating
- Loads prohibited

Solar ready meter panels

- Dedicated PV breaker is solar only / loads are prohibited

METER SOCKET ADAPTERS (MSA)

Expanded use of MSAs within TEP's service territory.



Will this project be installing a Meter Socket Adapter in the utility billing meter socket? *

Yes

Please select the manufacture/model MSA you are using *

Select...

NOTE: Your Project will require for the MSA form below to be generated, signed by your customer and reattached for project submittal

MSA Customer Form Generate Document

Backup Generator Installations SR-709

Safety considerations

- Warning Labels
- Utility Isolation Disconnect between grid and ATS
- Duty to bring to standard if prior installation
- All in ones service entrances cannot back up loads / relocation of loads required

Energy Storage Installations SR-710

Safety considerations

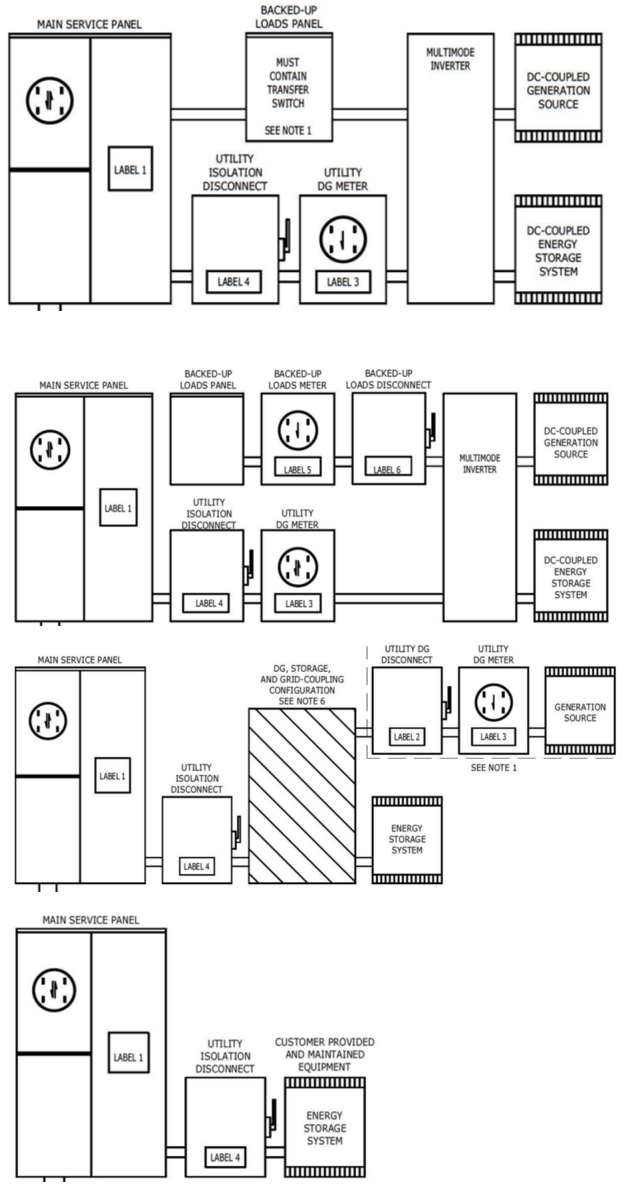
- Warning Labels
- Utility Isolation Disconnect between grid and ESS

Standard Configurations

- DC-Coupled 1
- DC-Coupled 2
- AC Coupled
- Stand Alone

Loads must be on Grid side of DG Meter

ESS may be on DG Side or Grid Side of DG Meter



Equipment Arrangement and Placement

Safety considerations

Ten Feet

Line of Sight

Obstructions

(b) Arrangement and Location

1 The Utility Isolation disconnect switch and all required meter switches shall be located within 10 feet of the customer's revenue meter, within line of sight, not separated by walls, gates or obstructions, and installed between the DERs and the point of interconnection.

Variances are not granted based on convenience or preference and must be requested in the interconnection application and subsequently approved prior to construction. Switch installations shall be accessible and operable to Service Provider personnel at all times.

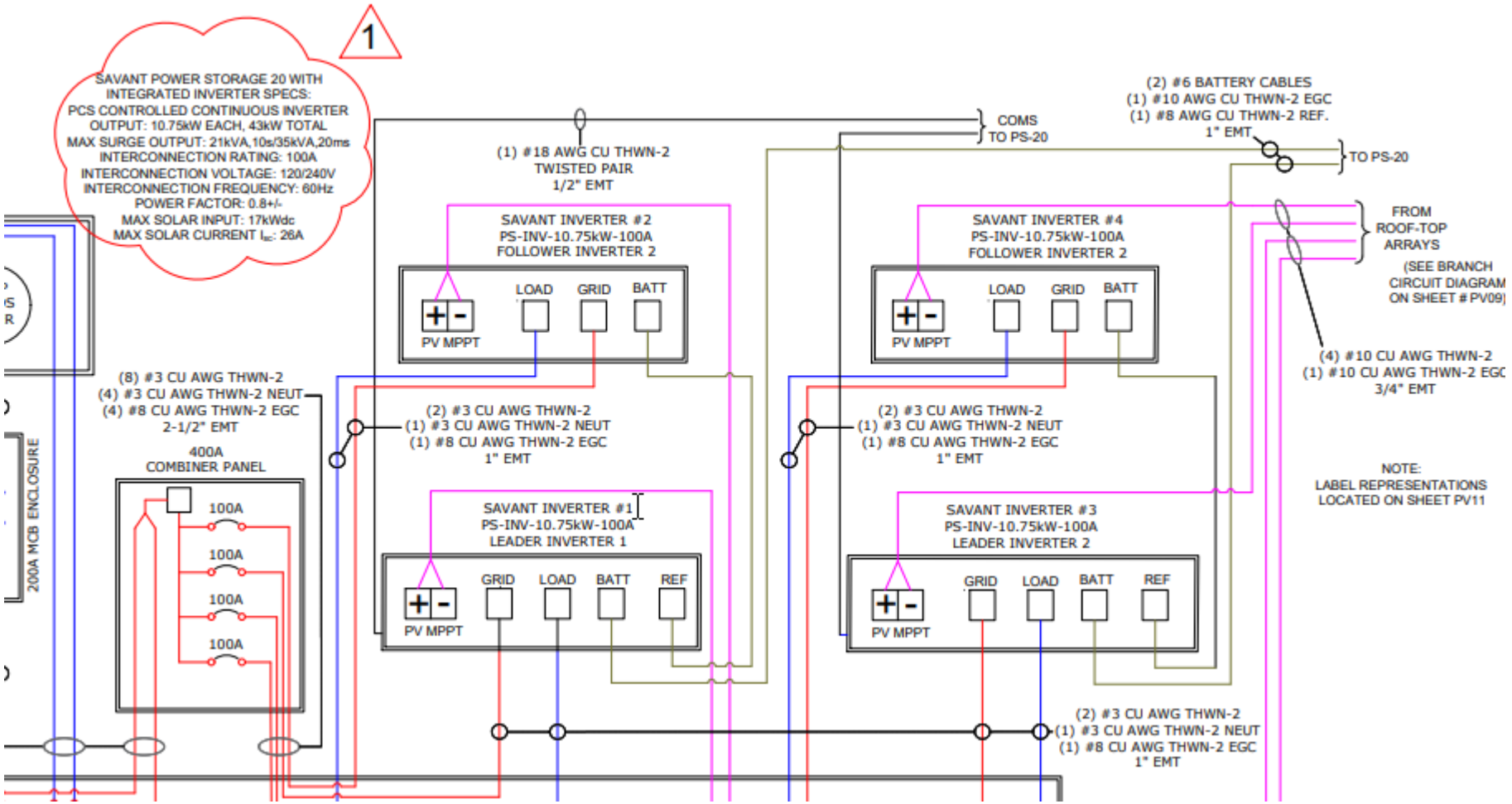
Variance Request

- Out of ordinary conditions
- Describe case for variance
- Photos of location the equipment is required
- Photos of proposed location of equipment

Map Placards (NEC 705.10)

POWER CONTROL SYSTEM (PCS)

LIMITING EXPORT TO THE GRID



ENERGY STORAGE REWARDS PROGRAM

Performance based customer compensation for sharing energy to the grid

Installer Contact: Aiyana Koch-Martinez
Website: https://www.tep.com/energy-storage-rewards/

Key Resources

Thank you for serving our mutual customers

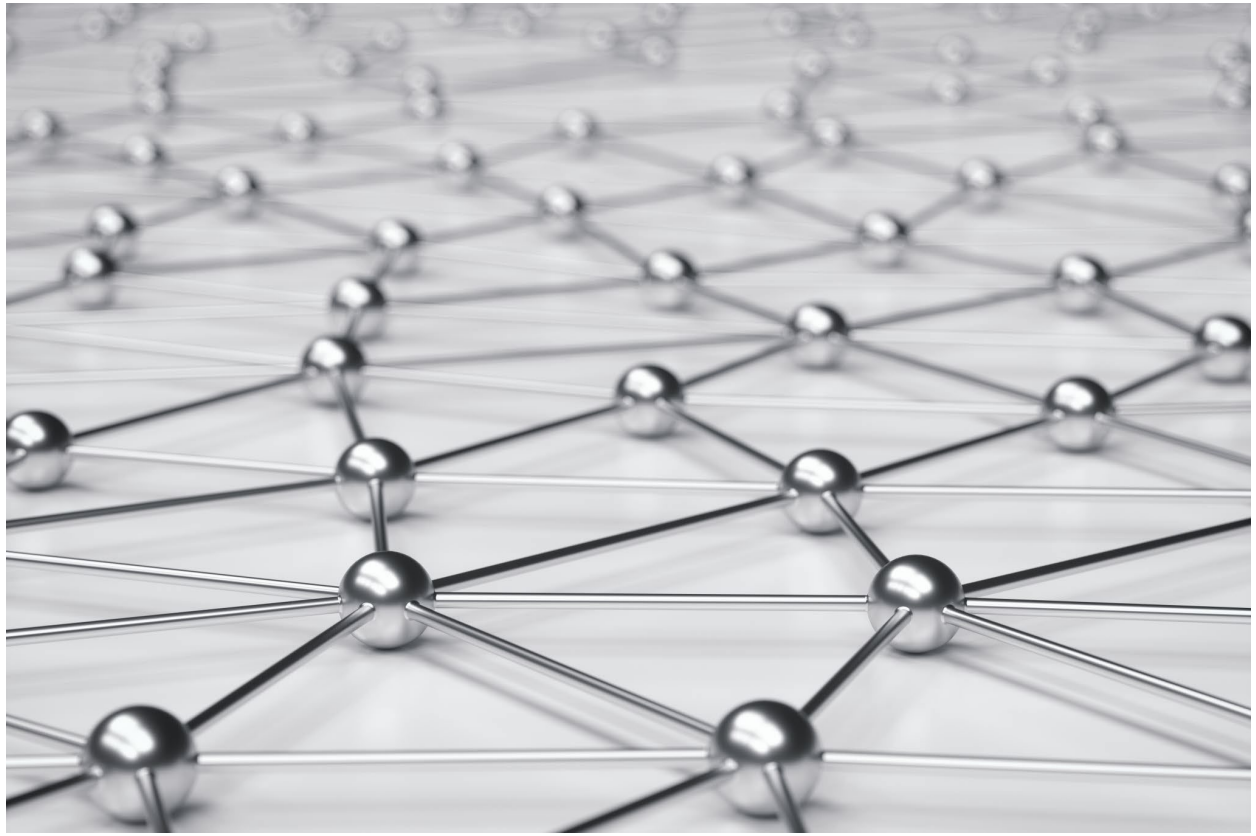
At your fingertips: Visit the solar installer page on tep.com/solar for everything from our interconnection manual to our service requirements.

A direct connection: Email Renewables@TEP.com if you would like to schedule some time to meet with our coordinators.

Status updates: Follow along in PowerClerk at tepdg.powerclerk.com

Power kill scheduling: 520-918-8300

TEP Rates: TEP.com/Rates




TEP
QUESTIONS