



## 2023 Installer Meeting

### Sustainable, Reliable, Affordable Energy for the Future

MAY 2023

# 2023 Installer Meeting

Welcome!

- The webinar will start at 2:00 pm
- 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
- Questions will be answered at the end of the presentation
- Look for a response through e-mail if we don't get the opportunity to respond today





# Agenda

- Team Introductions
- Safety Moment
- Meter Socket Adapters
- Energy Storage
- Equipment Placement
- Administrative Review



# Safety Moment

**Arizona Admin.  
Code § 14-2-2625  
protects all of us. It  
also keeps  
equipment safe.**

IEEE 1547-2018 applies to all inverters regardless of Level or PV system size.





# Technical Services

- Meter socket adapters
- Energy storage
- Equipment placement reminders



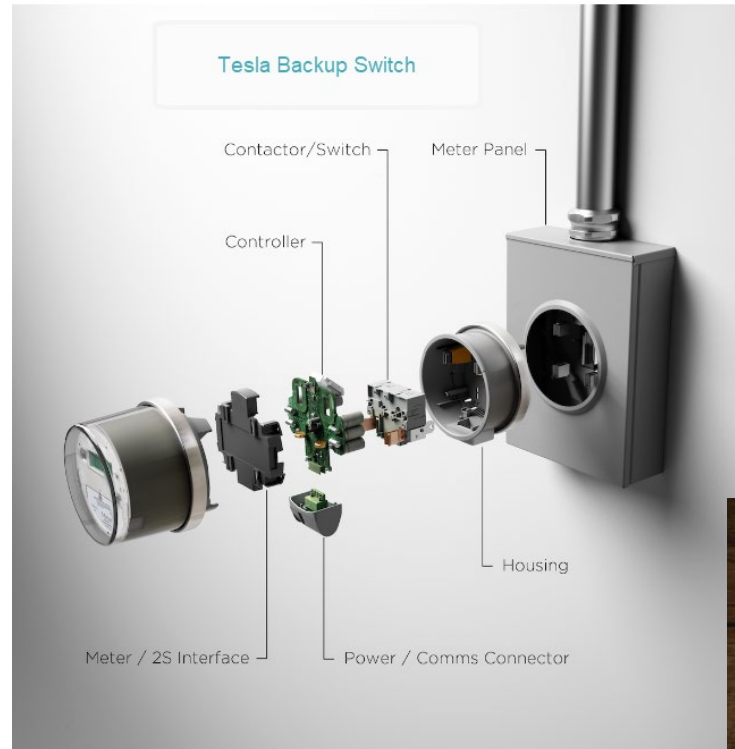
# Meter Socket Adapter

- What is it?
- Why it matters.



# MSA TYPES

- Tesla Backup Switch
- ConnectDER
- Others



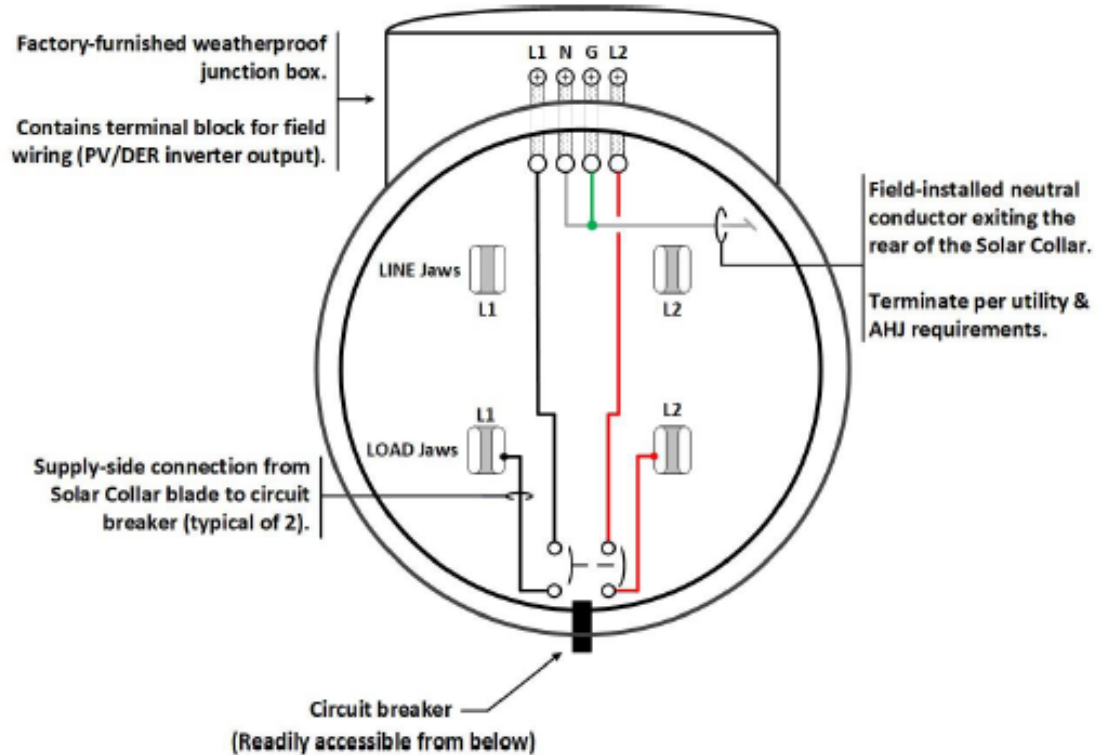
## 4 Key Steps

File notice of intent to use in Power Clerk

Customer returns acknowledgement letter

Schedule a power kill prior to installation

Receive a clearance from the Authority Having Jurisdiction (AHJ) prior to service reconnection\*



\*For ConnectDER and other MSAs with a neutral conductor pigtail, conductor must be terminated in a manner acceptable to both TEP and the AHJ



# Energy Storage

Ensuring Seamless  
Service Amid Expanded  
Consumer Interest



# Energy Storage Service Requirements

## General Items:

TEP requirements covered in SR-710

Three general categories for solar + storage:

- AC-coupled
- DC-coupled #1
- DC-coupled #2

Solar + storage diagrams shown in SR-710 are general examples and do not capture every configuration alternative.

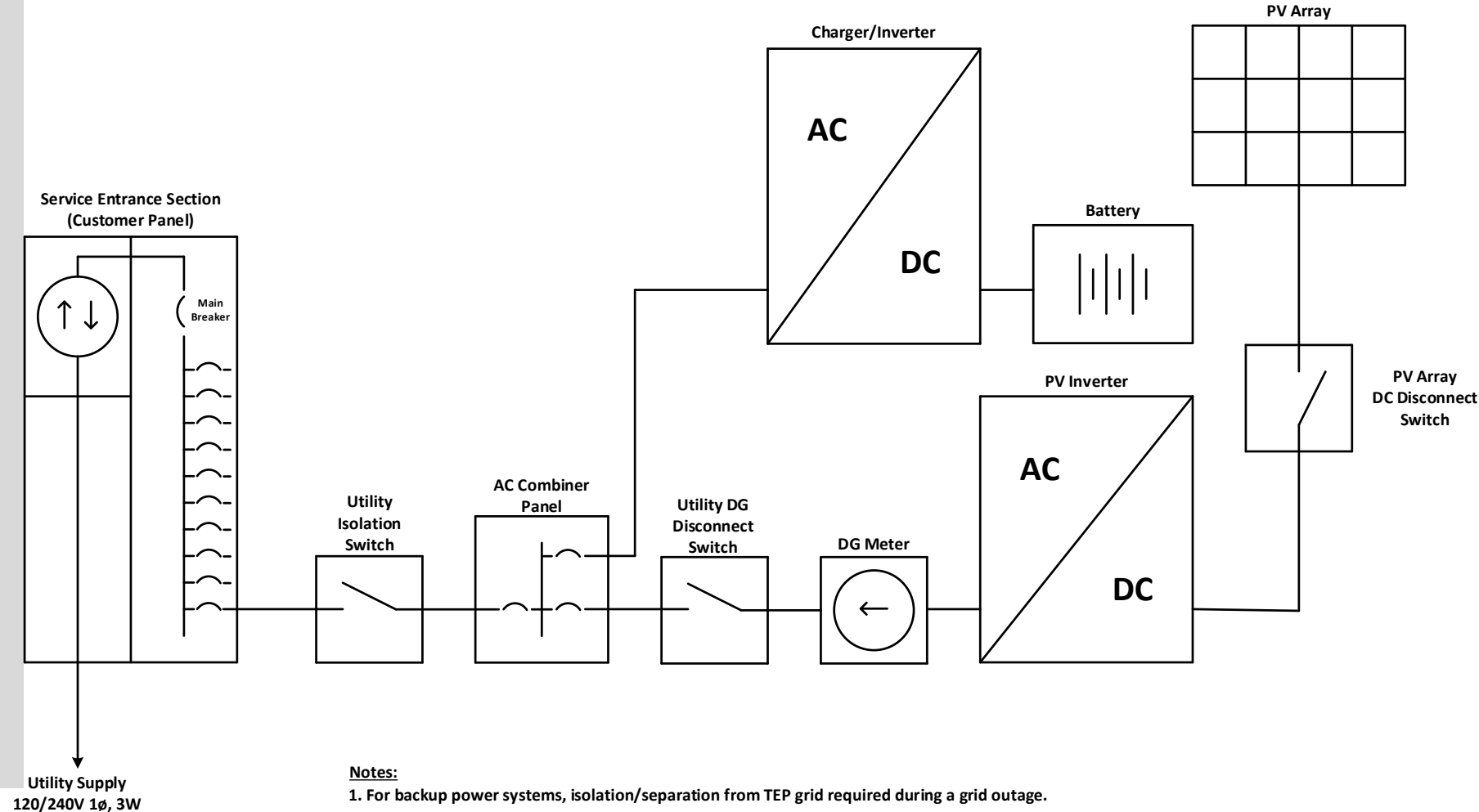
Not covered in SR-710, but also allowed: Energy storage only without solar.



# AC Coupled

## AC-Coupled Systems:

- Solar and energy storage DC-to-AC conversions performed independently with AC outputs connected at combiner panel or smart switch.
- Solar AC output must still have production meter and associated AC disconnect.
- Additional AC disconnect – “Utility Isolation Disconnect” – is required between combiner panel/smart switch and main service panel.
- Back up load panel fed from smart switch is okay.
- Tesla Powerwall energy storage system (not Powerwall+) in conjunction with solar is an AC-coupled system.



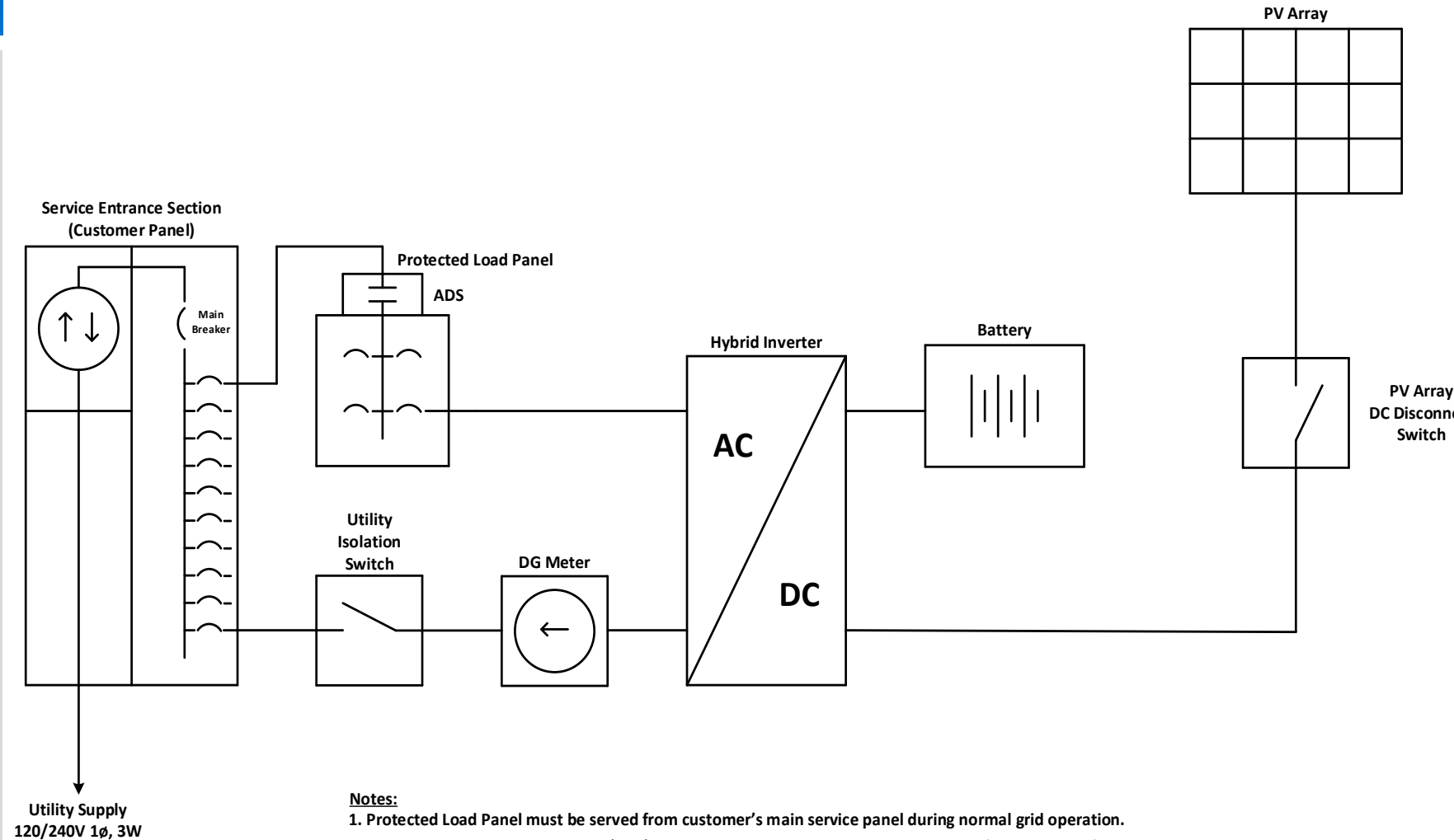


# DC Coupled

## DC-Coupled Systems:

- Employ a “multi-mode” or “hybrid” inverter to perform DC-to-AC conversion for both solar and energy storage.
- Production meter will capture all solar generation, but not necessarily in “real time”.
- Difference between SR-710 Configurations #1 and #2 involve only how the backup load panel is served.
- Tesla Powerwall+ is considered a DC-coupled #1 configuration.

ENERGY STORAGE CONFIGURATION DIAGRAM – SOLAR + STORAGE DC-COUPLED



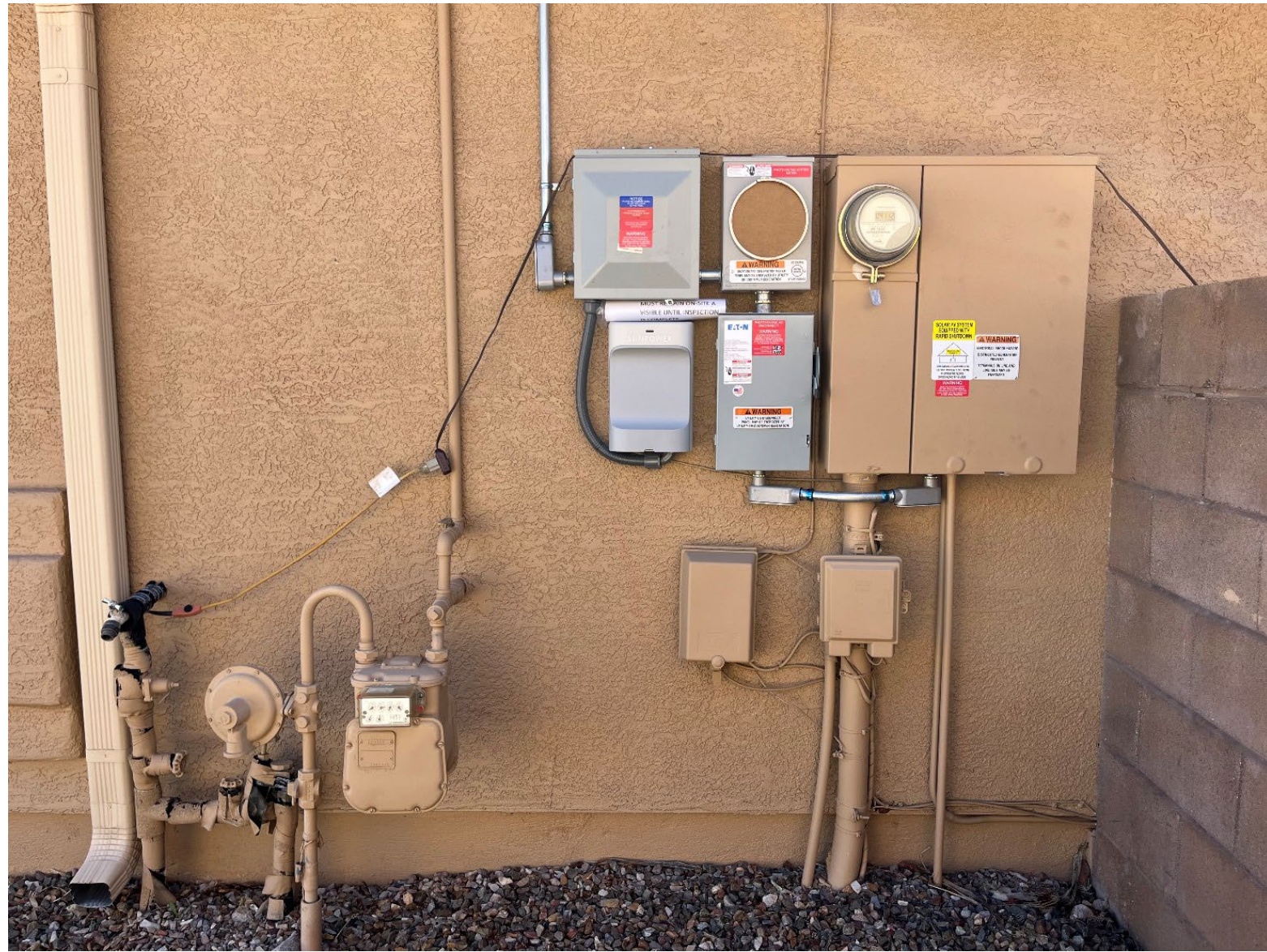
Notes:

1. Protected Load Panel must be served from customer's main service panel during normal grid operation.
2. An Automatic Disconnect Switch (ADS) is required to separate Protected Load Panel from customer's main service panel during a grid outage.
3. Refer to TEP Electric Service Requirement SR-710 for more information.



# Utility DG Equipment

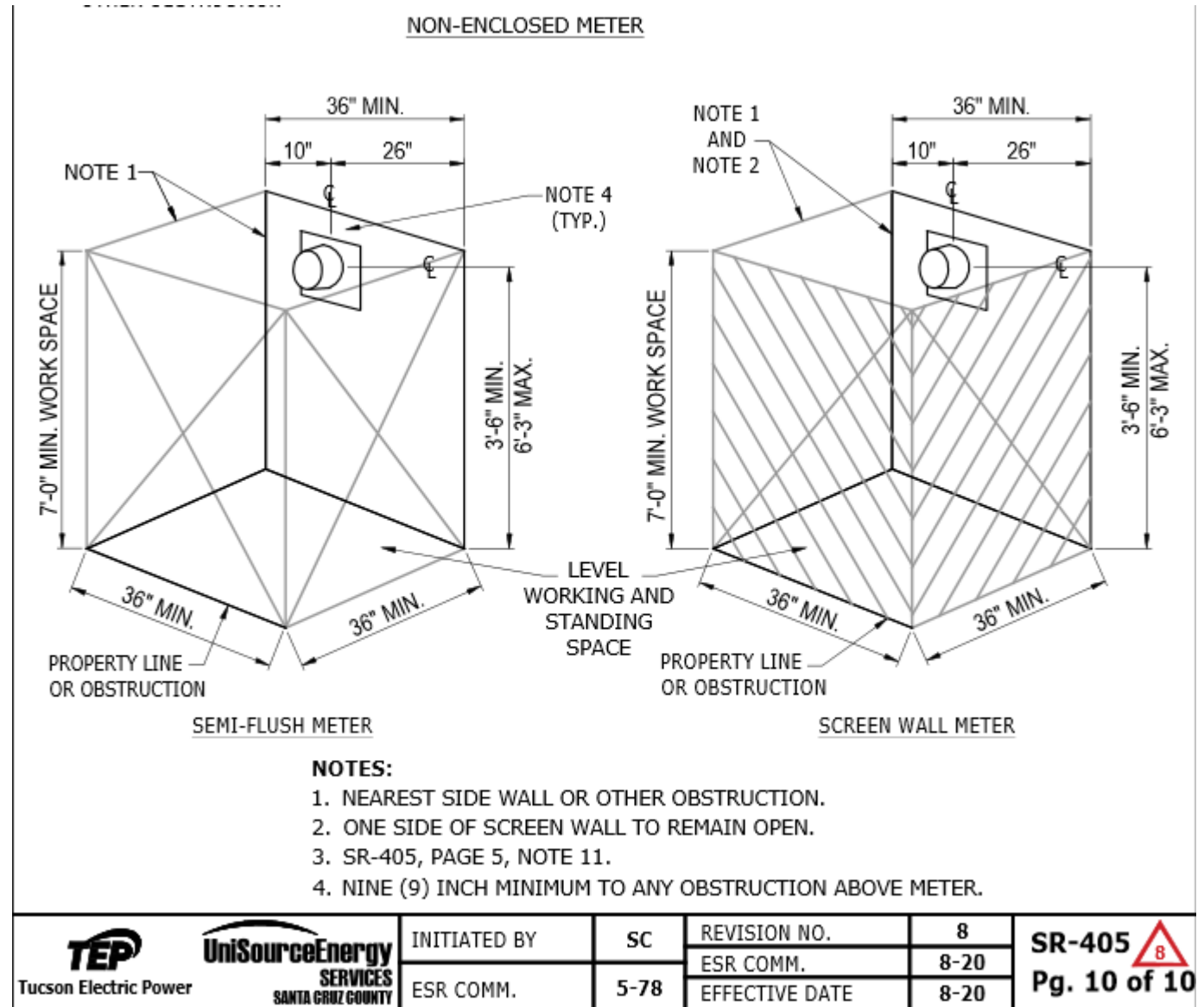
- Utility equipment
- Non-utility equipment
- Equipment Placement
- TEP Design/Build Services
- TEP Renewables





# Equipment Placement

## Footprints, clearances





# Placement Concerns

Keep in mind:

- Working clearance
- Door swing radius
- Plumbing fixtures
- Porches



## Variances are Rare

"Variances are not granted based on convenience or preference and must be submitted in the DG application and subsequently approved prior to construction. Meter sockets shall be accessible to Service Provider personnel at all times."





# Pitfalls to Avoid

## Errors slow projects.

- The most common from 2022 include:
- Wiring failures
- Missing 702, 703 or 710 placards
- Facility map placards



LABEL 1  
2-15-1912



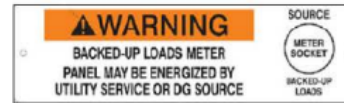
LABEL 2  
2-15-1913



LABEL 3  
2-15-1911



LABEL 4  
2-15-1902



LABEL 5  
2-15-1904



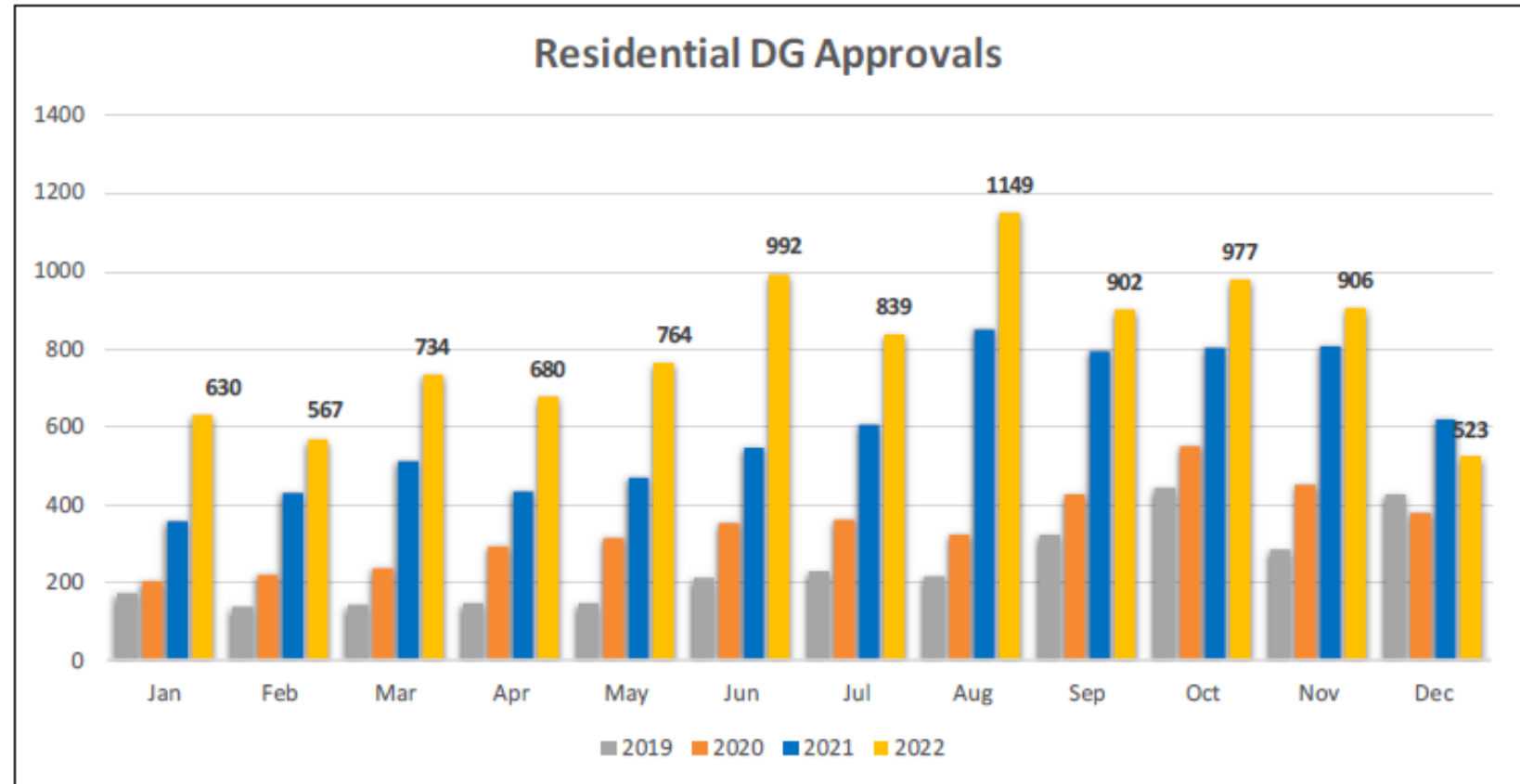
LABEL 6  
2-15-1900





# 2022 Achievements

Our work,  
together



# 2022 Successes

## Keep up the good work!

- Establishing photo streamlined submissions
- Modification requested
- Door hangers granted immediate access
- Photo requirements



# Coming 2023 - 2024

- **Monthly Installer Notices:**  
Watch for “Important to Know” coming soon in PowerClerk
- **Quarterly Installer Newsletters**
- **Bi-Annual Installer Meeting**
  - Virtual in spring; In Person late summer
- **Website Updates**



Subscribe



Tucson Electric Power



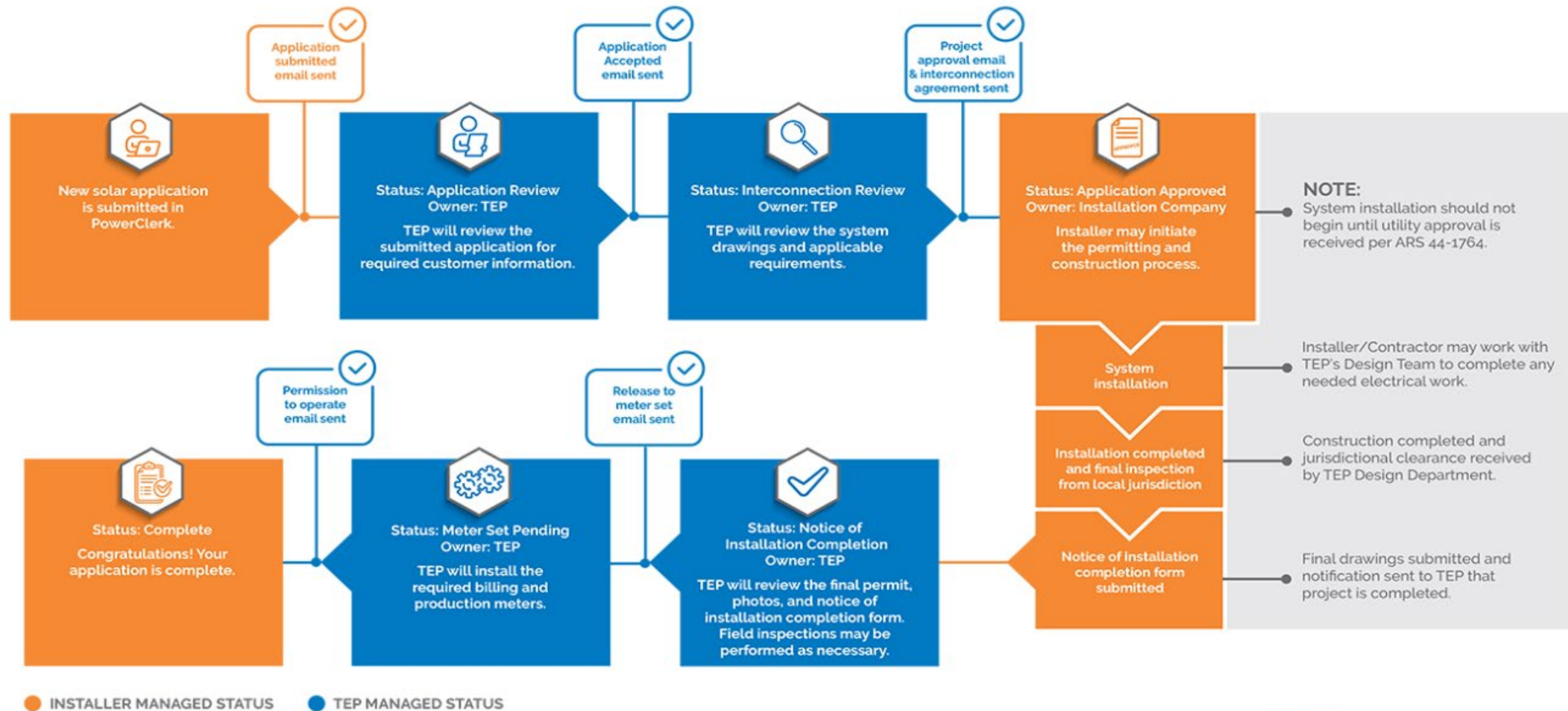
# Looking Ahead

- IA Changes
- Power Kill Process Changes
- Customer Confirmation Form
- Extensions; 90-day increments
- Self-Registration





○ <https://www.tep.com/rooftop-solar/>



\*This flowchart does not represent all paths, communications, or statuses. It represents the most likely flow with no corrections or inspections needed.



Questions? Contact us at:  
Renewables@tep.com  
520-917-3673

# Questions?

