

# Field Services & Meter Shop

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Trevor Widenski (Meter Shop)



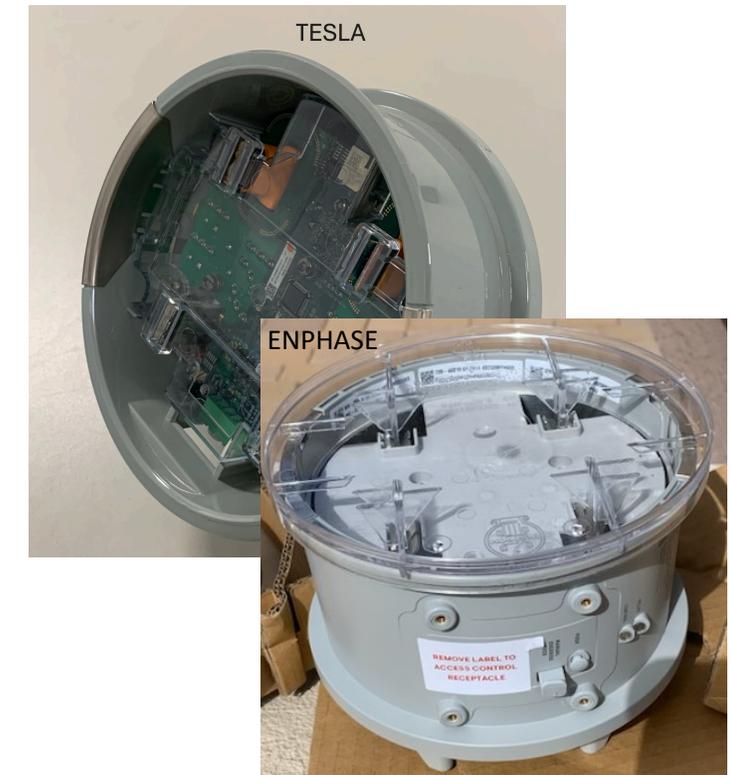
# MSA (Meter Socket Adaptors) Function and Scheduling

ConnectDER Meter Collars are utilized in our service territory for eliminating the need for an MPU / Main breaker De-Rate and requires a Neutral bond connection

TESLA/ENPHASE MSA is utilized to provide real time information to the TESLA/ENPHASE solar system and solar customer of system operation

When an MSA / Meter collar is required, there are two options for scheduling:

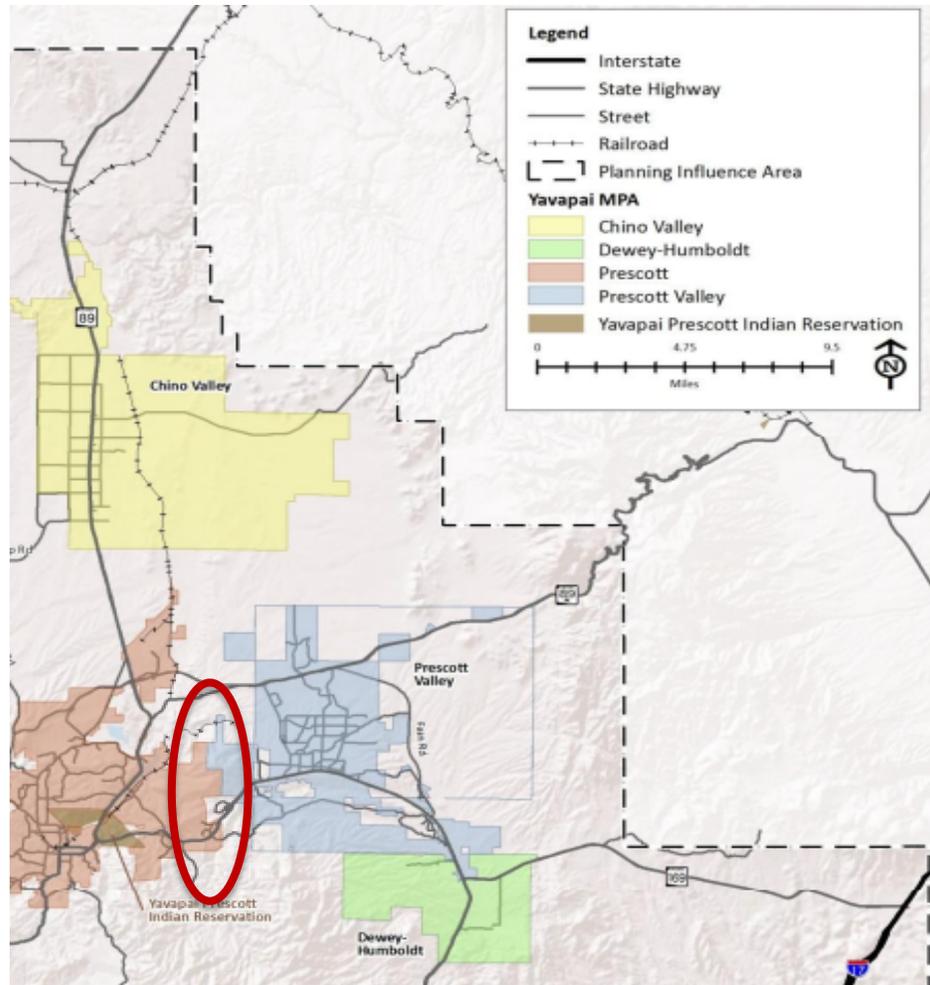
1. **Device left on site** - we complete the install between 3-5 business days once we process the request.
2. **Appointment** - APS will schedule an appointment (pending availability) between 7-10 days to complete the installation. Please provide a contact number for our service man to verify solar tech or MSA / Meter Collar is or will be onsite for install.



# Clearance or Letter-In-Lieu of Electrical Clearance

When a De-Rate or Line Side Tap is required to complete a solar installation, it is the responsibility of the installer to determine whether an inspection by the local Authority Having Jurisdiction (AHJ) or a completed Letter-in-Lieu from the onsite installer is needed. APS will not reinstall the meter or restore power until the appropriate verification has been provided.

Installers should contact the local municipality or county permitting agency to confirm whether an onsite inspection is available or if a Letter-in-Lieu will be required.



The Letter-in-Lieu form is available online under Common Documents and Resources, at [aps.com/dg](http://aps.com/dg).

**LETTER IN-LIEU OF ELECTRICAL CLEARANCE**

Customer Name: \_\_\_\_\_

Project Name (if applicable): \_\_\_\_\_

Service Address: \_\_\_\_\_ City/Town/County: \_\_\_\_\_

**IMPORTANT NOTICE**

Under applicable rules of the Arizona Corporation Commission, it is the customer's responsibility to ensure that all facilities on the customer's side of the point of delivery of electricity are maintained in safe operating condition. A.A.C. Rule R14-2-208 (B)(1). This responsibility includes ensuring that the customer's electrical facilities comply with all local construction codes and safety standards. Customer should coordinate this responsibility with their architectural and engineering consultants, construction contractors, or subcontractors, as appropriate, before their electrical systems are energized. Failure to do so may result in injury or damage resulting from unsafe conditions. APS is not responsible for unsafe or noncompliant conditions on the customer's side of the point of delivery.

**Customer's Certification Of Readiness**

The undersigned customer or authorized representative does hereby certify to Arizona Public Service Company and agree that customer:

- Has read the foregoing notice and fully understands the customer's obligations under the rules of the Arizona Corporation Commission for operating safely;
- Has conferred with the architect, engineering consultant, general contractor, or subcontractor(s), as applicable and appropriate, responsible for the design and construction of the facilities, to verify that the electrical systems on the customer's side of the point of delivery have been constructed to the best of customer's knowledge in compliance with local construction and safety standards (including, for example, the National Electrical Code);
- Has determined and confirmed to the best of customer's knowledge that the electrical systems do in fact comply with these local construction and safety standards;
- Understands and agrees that in reliance on these representations, APS has agreed to energize electrical service to the customer's service entrance section at such facilities;
- Assumes full responsibility for any and all damages and injuries that may occur to the customer's property, employees or members of the public or other parties as a result of conditions on the customer's side of the point of delivery at the service address noted above, unless caused by the acts or omissions of APS or its employees and agents; and
- Hereby releases APS from any and all damages, or injuries that may occur as a result of the electric service supplied by APS, provided that said damages or injuries are not caused by APS' negligence or willful misconduct, and that APS' service meets the applicable requirements of the National Electrical Safety Code (NESC) and the standards of the Arizona Corporation Commission.

Customer or Authorized Representative Name: \_\_\_\_\_

Signature of Customer or Authorized Representative:  \_\_\_\_\_

Business Name: \_\_\_\_\_

Business Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Date: \_\_\_\_\_

Notarized By: \_\_\_\_\_

412-208 (8-24-17) PRINT

# Workspace Encroachment

## ESRM 301.7

**301.7 WORKING SPACE (600 VOLTS OR LESS)**

**NOTES:**

1. TO PERMIT ACCESS TO THE METERING INSTALLATIONS AND PROVIDE SAFETY FOR PERSONNEL, A WORKING AND STANDING SPACE ENTIRELY ON THE PROPERTY OF THE CUSTOMER SHALL BE PROVIDED IN FRONT OF ALL METERING EQUIPMENT.
2. WORKSPACE SHALL BE CLEAR OF OBSTRUCTIONS, INCLUDING A/C UNITS AND PIPING SYSTEMS AND SHALL HAVE A SLOPE TO PROVIDE DRAINAGE AWAY FROM THE METERING EQUIPMENT. MAXIMUM SLOPE ALLOWED IS 1 INCH IN 3 FEET. THERE SHALL BE 10" MINIMUM HORIZONTAL AND 9" MINIMUM VERTICAL CLEARANCES FROM THE CENTER OF THE METER SOCKET TO ANY OBSTRUCTION. WHEN THE PANEL WIDTH IS LESS THAN 36", THE CLEAR WORKING SPACE SHALL BE 18" MINIMUM HORIZONTALLY FROM THE CENTER OF PANEL. IN ALL CASES THE HORIZONTAL CLEARANCE SHALL BE THE GREATER OF EITHER THE 10" MINIMUM FROM THE CENTER OF THE METER SOCKET TO ANY OBSTRUCTION OR 18" MINIMUM FROM CENTER OF PANEL CLEARANCE.

Our workspace that is required per the ESRM/IRM is defined in ESRM 301.7

We require 36"x36"x78" for the proper workspace in front of APS required equipment nothing can be encroaching our workspace to allow the safe operation and maintenance of all APS required equipment.

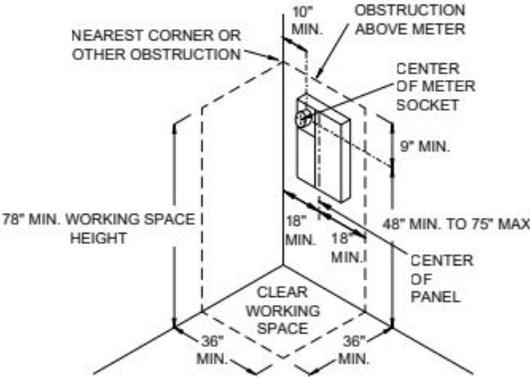


FIGURE 1  
SURFACE OR SEMI-FLUSH  
METER INSTALLATIONS

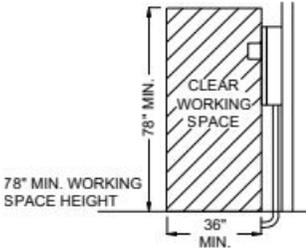


FIGURE 2  
WORKING SPACE - SIDE VIEW

# Workspace Cont.

Examples of workspace encroachment and access; not enough workspace to properly and safely work on our equipment.



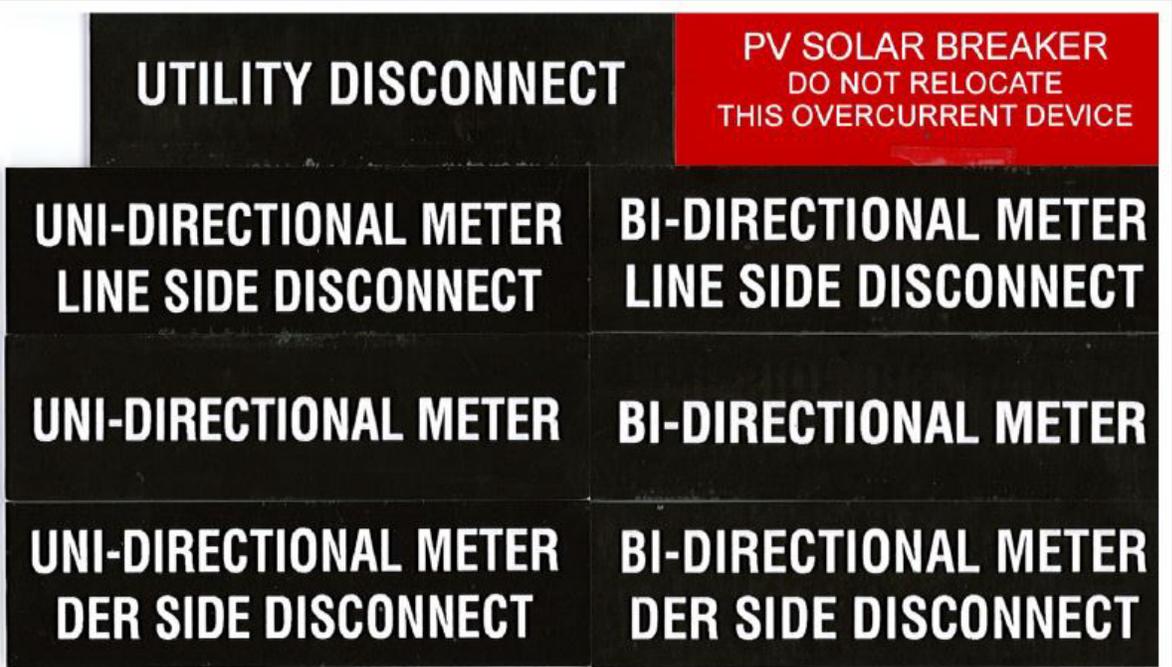
# Required Labels

**Proper labeling is imperative for safe and proper maintenance / operation of APS equipment. APS has standardized our residential required solar equipment.**

IRM 8.6 A,B,C,D,E  
 ESRM 302.1

All APS required equipment shall be labeled per the APS approved three-line drawings submitted with the solar application. (see ESRM 302.1) Any revisions shall note correct labeling indicating identification and function of equipment.

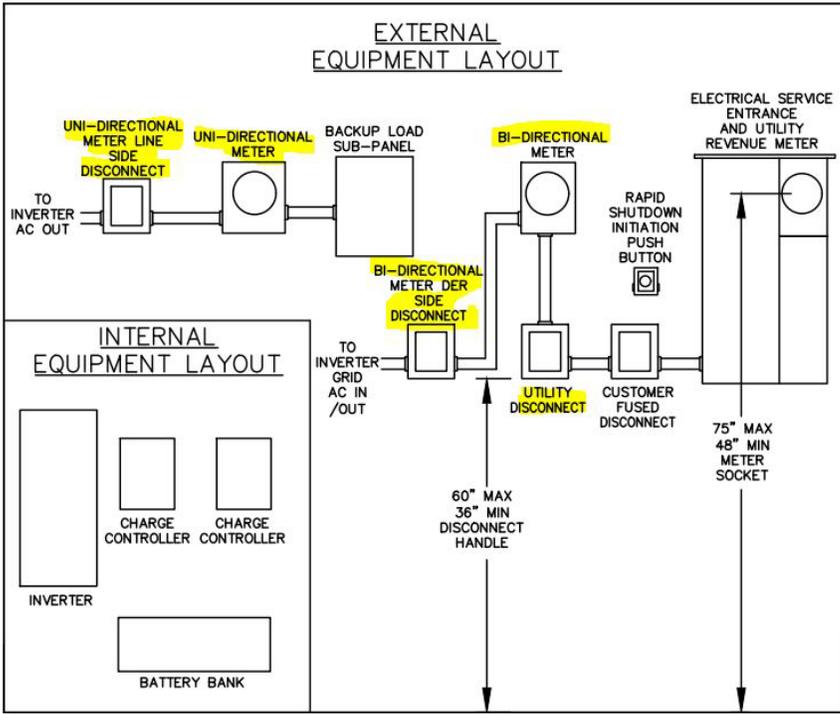
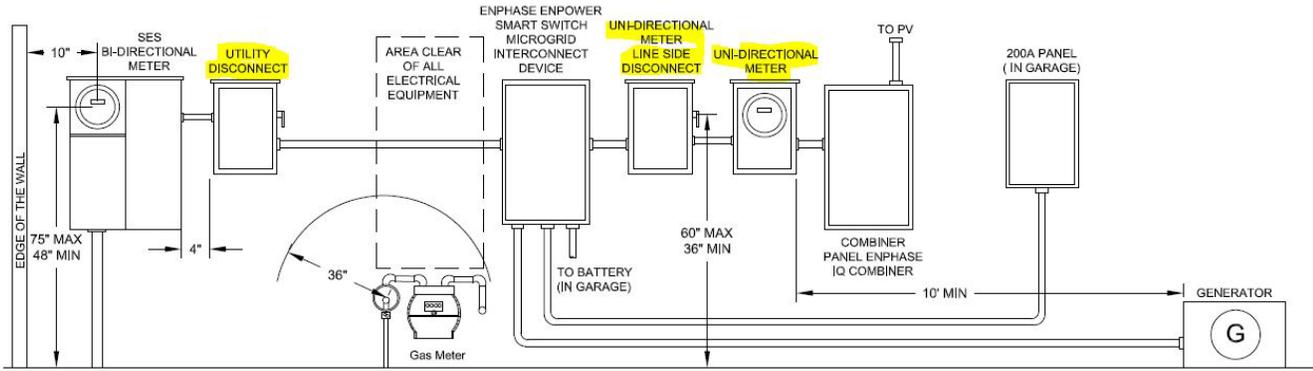
This standardized labeling allows APS and Installers to know direction of all potential sources for isolation while performing inspection and maintenance of equipment.



# Required Labels Cont.

Examples can be found on the <https://www.aps.com/dg#Interconnection> website under Residential sample design requirements

GENERAL NOTES:  
 NOTE: UTILITY HAS 24-HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AND SERVICE ENTRANCE.  
 NOTE: WORKSPACE IN FRONT OF AC ELECTRICAL SYSTEM COMPONENTS SHALL BE IN ACCORDANCE WITH APS AND NEC REQUIREMENTS. FOR WORKSPACE AND ELEVATION OF PV SYSTEM UTILITY DISCONNECT, APS PRODUCTION METERS WITH ASSOCIATED DISCONNECTS, REFER TO SECTION 300 OF THE APS ESRM.  
 NOTE: REFERENCE SECTION 301.15 OF THE APS ESRM FOR ELECTRIC METER SEPARATION BETWEEN WATER, GAS METER AND FUEL SOURCES.



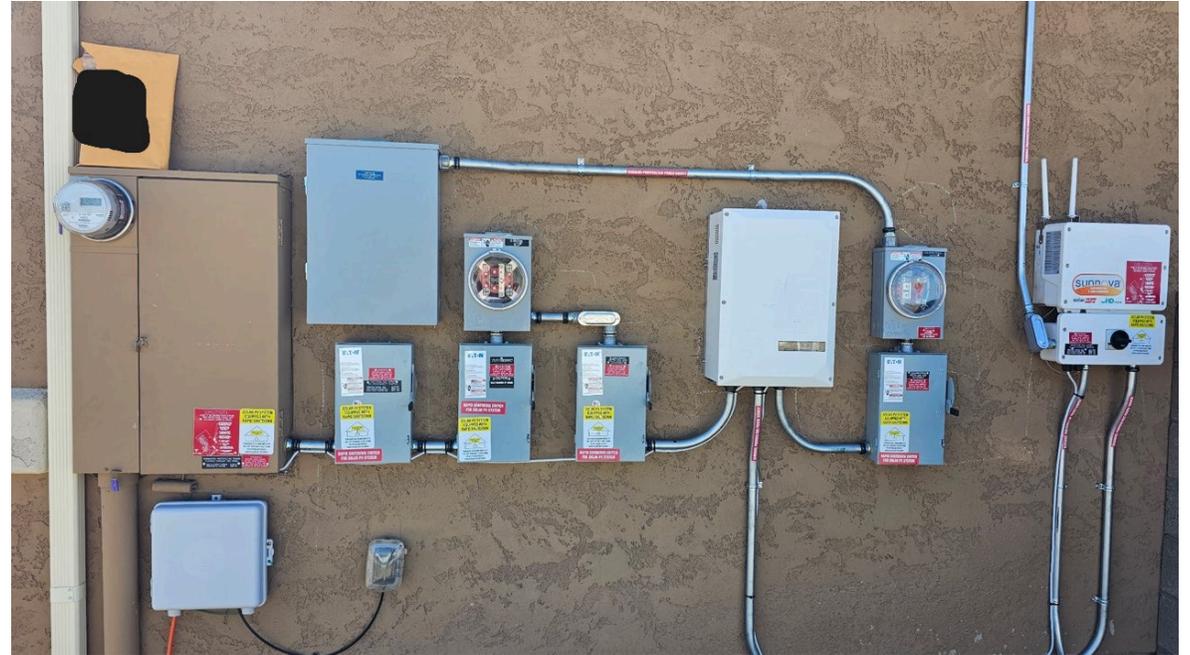
# Required Labels Cont.

**The need to know what is what is imperative to the APS, installer, customer and EMS personnel**

It all looks the same



Only what pertains to the equipment.



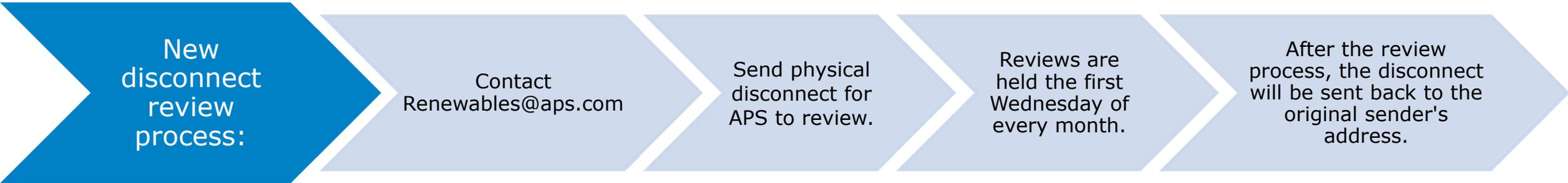
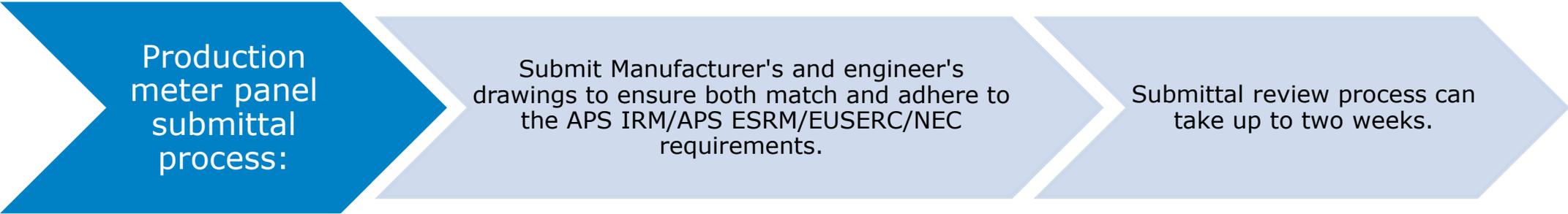
# Required Labels Cont.

The label should only indicate what that piece of equipment is and should not have multiple tags saying the same thing.

Labels must be installed using two rivets.



# Meter Shop Processes



Send disconnects that need to be reviewed to:  
Attn. Meter Shop  
2121 W Cheryl Dr.  
Building B-4  
Phoenix, AZ 85021