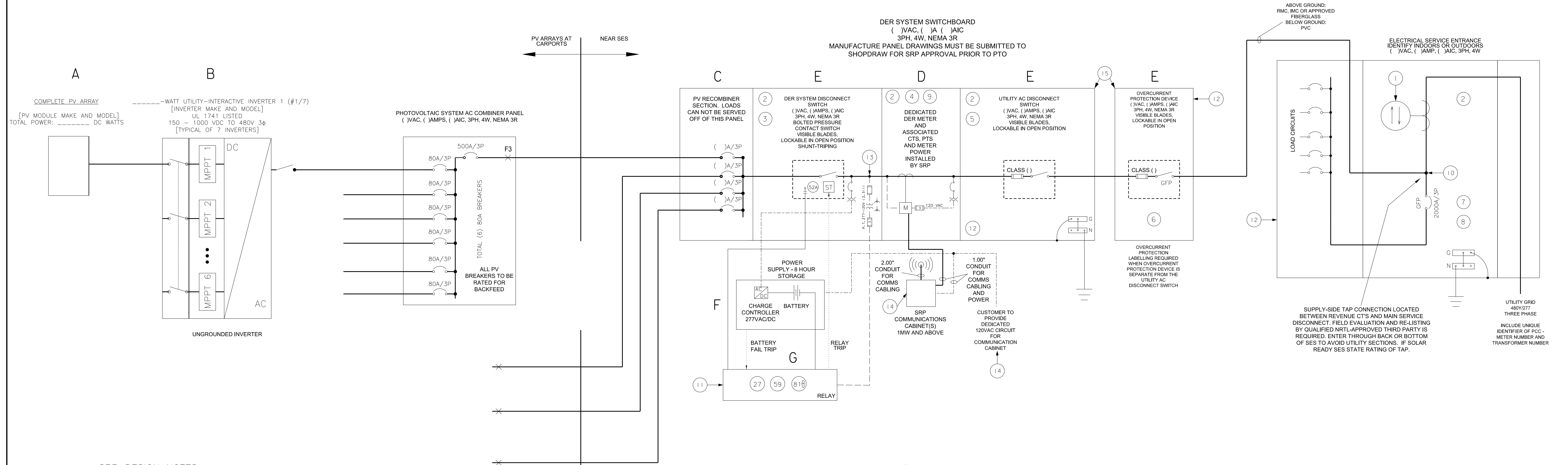


STANDARD SINGLE LINE DRAWING TO SHOW SRP REQUIREMENTS FOR A CLASS III PV SYSTEM OVER 1MW



SRP DESIGN NOTES:

- OVER/UNDER FREQUENCY, OVER/UNDER VOLTAGE PROTECTION DEVICE IS REQUIRED FOR SYSTEMS 1MW AND OVER. THIS REQUIREMENT IS MET THROUGH A REDUNDANT RELAY SYSTEM IN ADDITION TO THE PV INVERTER PROTECTION SETTINGS.
- DESIGN MUST INCORPORATE ISOLATION OF PROTECTION DEVICES FOR TESTING AND MAINTENANCE.
- SENSING POTENTIALS MUST BE CONNECTED TO UTILITY SIDE OF DER UTILITY DISCONNECT.
- DER RELAY REQUIRES A 52A CONTACT. IN CERTAIN CASES THE DER METER REQUIRES A 52A CONTACT AS WELL.
- ADDITIONAL INDICATIONS MAY BE REQUIRED IF ADDITIONAL CUSTOMER SWITCHING CAN OCCUR.

GENERAL NOTES:

- ALL SYSTEM DESIGN DRAWINGS MUST INCLUDE ALL SWITCHGEAR FROM GENERATION FUEL (SOLAR ARRAY, BATTERY, ETC.) TO UTILITY SERVICE TRANSFORMER. ALL SWITCHGEAR MUST BE IDENTIFIED WITH UNIQUE IDENTIFIERS.
- ANY CUSTOMER-SITED EQUIPMENT THAT CONSISTS OF A MAIN-TIE-MAIN MUST INCLUDE INTERLOCK DESCRIPTION AND MAIN-TIE-MAIN SCHEME.
- EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS 605.11.1 THROUGH 605.11.4 OF THE INTERNATIONAL FIRE CODE, NFPA 70 (NEC) AND ALL APPLICABLE REQUIREMENTS OF THE SERVING ELECTRIC UTILITY COMPANY AND OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- ABOVE GROUND CONDUIT WILL BE RIGID METAL CONDUIT (RMC) OR INTERMEDIATE METAL CONDUIT (IMC) AND INSTALLED PER NEC AND SRP ESS OR INTERCONNECTION HANDBOOK TO SERVICE DISCONNECT. RACEWAYS ARE NOT ALLOWED.
- TELEMETERING IS REQUIRED FOR SYSTEMS 1MW AND ABOVE PER SITE. DEPENDING ON SYSTEM PCC SRP MAY REQUIRE INDICATION AT ANY SWITCHGEAR THAT PROVIDES A PARALLEL PATH OF GENERATION FACILITY TO SRP. A LOCAL AND END-TO-END CHECK OUT MUST BE PERFORMED AT WITNESS TESTING FOR ALL TELEMETERING.
- REFER TO DER REQUIREMENTS BY CLASS IN THE INTERCONNECTION HANDBOOK, SECTION 2.
- FAN ANTENNA REQUIRES LINE OF SIGHT (LOS) WITH A SUBSTATION RECEIVER. THE SUBSTATION THAT IT WILL NEED TO HAVE LOS WITH WILL BE DETERMINED DURING A TECHNICAL STUDY. THERE MAY NEED TO BE MOUNTING OF ANTENNA ON ROOFTOP OR ON A POLE. DESIGN LOCATION OF EQUIPMENT AND NUMBER OF POINTS OF CONNECTION WILL IMPACT COSTS.

FOR LARGE CABLE RUNS PLEASE DELINEATE MAJOR AREAS THAT THE PROJECT WILL HAVE EQUIPMENT LOCATED AS WELL AS EXISTING EQUIPMENT THAT THE PROPOSED SYSTEM WILL BE AUGMENTING, IF APPLICABLE.

KEYED NOTES:

- BI-DIRECTIONAL UTILITY METER TO BE INSTALLED BY UTILITY COMPANY (WHEN REQUIRED).
- ALL LABELS TO FOLLOW SRP STANDARDS OUTLINED IN SRP INTERCONNECTION HANDBOOK, SECTION 2.
- LABEL "DER SYSTEM DISCONNECT SWITCH". SWITCH COVER TO BE LOCKED. SWITCH TO BE VISIBLE OPEN, LOCKABLE AND 24HR ACCESSIBLE PER UTILITY REQUIREMENTS, AND CONFORM TO THE SRP INTERCONNECTION HANDBOOK.
- LABEL "DEDICATED DER METER". LABEL SHALL CONFORM TO THE SRP INTERCONNECTION HANDBOOK, SECTION 2.
- LABEL "UTILITY AC DISCONNECT SWITCH". SWITCH COVER TO BE LOCKED. SWITCH TO BE VISIBLE OPEN, LOCKABLE AND 24HR ACCESSIBLE PER UTILITY REQUIREMENTS, AND CONFORM TO THE SRP INTERCONNECTION HANDBOOK.
- LABEL "OVERCURRENT PROTECTION DEVICE". SWITCH COVER TO BE LOCKED. SWITCH TO BE VISIBLE OPEN, LOCKABLE AND 24HR ACCESSIBLE PER UTILITY REQUIREMENTS, AND CONFORM TO THE SRP INTERCONNECTION HANDBOOK. THIS LABEL NOT NEEDED IF UTILITY AC AND DER SYSTEM DISCONNECTS ARE COMBINED.
- THE CUSTOMER SHALL CONFORM TO THE NEC AND SRP'S ESS FOR LABELING OF DER EQUIPMENT, SWITCHES, BREAKERS, ETC. FOR LABELING REQUIREMENTS REFER TO DER SIGNAGE WITHIN THE SRP DISTRIBUTED GENERATION INTERCONNECTION HANDBOOK, SECTION 2.
- A SIGN SHALL BE PLACED ON THE EXTERIOR OF THE SERVICE ENTRANCE EQUIPMENT INDICATING THE TYPE AND LOCATION OF THE ON-SITE EQUIPMENT SPECIFIED WITHIN THE LABELING REQUIREMENTS IN THE DER SIGNAGE SECTION WITHIN SRP'S DISTRIBUTED GENERATION INTERCONNECTION HANDBOOK, SECTION 2.
- METER ENCLOSURE AND SOCKET PROVIDED AND INSTALLED BY CUSTOMER. METER, CTs AND TEST SWITCHES PROVIDED BY UTILITY COMPANY WHEN REQUIRED. NOTE 1: CUSTOMER TO SUBMIT SHOP DRAWINGS OF DER CABINET TO SHOP DRAW FOR APPROVAL. NOTE 2: CT-RATED PRODUCTION METERING ENCLOSURES SHALL HAVE THE BUS IDENTIFIED WITH REFERENCE TO THE GENERATION SOURCE SIDE PRIOR TO METERING INSTALLATION WITH A TEMPORARY TAG LABELED "GENERATION SOURCE".
- SUPPLY-SIDE CONNECTION IS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DOCUMENTATION IS INCLUDED WITH THE SRP POWER CLERK INTERCONNECTION APPLICATION.
- SUPPLEMENTAL DER DEVICE (SEL-751 SHOWN FOR EXAMPLE) FOR REDUNDANT ANTI-ISLANDING.
- EQUIPMENT SHALL BE LISTED AND RATED TO WITHSTAND THE AVAILABLE SHORT-CIRCUIT CURRENT.
- SUPPLEMENTAL DER RELAY POTENTIALS AND POWER TO BE UPSTREAM OF DISCONNECT OPERATED BY SUPPLEMENTAL DER DEVICE SO THAT POTENTIALS ARE ENERGIZED WHEN DISCONNECT IS OPENED. PTs TO BE GROUNDED WYE TYPE.
- CONTACT SRP TELECOM DEPARTMENT FOR CONSTRUCTION SPECIFICATION AND SAMPLE DRAWING OF THE FAN CABINET BOX. POWER TO COM CABINET SHOULD REMAIN IN SERVICE DURING DER OUTAGE.
- IN MOST CASES THE UTILITY AC DISCONNECT AND THE OVERCURRENT PROTECTIVE DEVICE MAY BE COMBINED. IF THE DEVICES ARE COMBINED THE INSTALLER SHALL APPLY BOTH LABELS TO DEVICE. UTILITY AC DISCONNECT AND OVERCURRENT PROTECTIVE DEVICE.

NOTES:

- WITHIN EACH INDIVIDUAL POWERCLERK APPLICATION, A SITE PLAN, ONE LINE, THREE LINE, AND LABEL SHEET SPECIFIC FOR EACH PROJECT WILL NEED TO BE UPLOADED INTO POWERCLERK FOR ENGINEERING REVIEW. IN ADDITION FOR SYSTEMS OVER 1MW A UNIQUE PROTECTION SCHEMATIC WILL BE REQUIRED FOR EACH PROJECT SUBMITTED IN POWER CLERK.
- SYSTEMS INSTALLED IN AREAS WHERE THE AHJ DOES NOT PROVIDE A CITY CLEARANCE DESIGN DRAWINGS MUST BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARIZONA, AND THE CUSTOMER MUST PROVIDE A SIGNED CERTIFICATE-IN-LIEU OF CLEARANCE FOLLOWING COMPLETION OF ALL WORK.

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	PART NO.	NOTES
A	PV MODULE			
B	INVERTER			
C	AC BKR			
D	METER SOCKET			
E	AC DISC.			
F	UPS			
G	RELAY			

THIS SAMPLE DRAWING IS FOR ILLUSTRATION PURPOSES ONLY AND IS NOT TO BE USED FOR DESIGN OR CONSTRUCTION. THIS DRAWING AND ITS SUITABILITY FOR END USE IS NOT IMPLIED. THE INTENT IS ONLY TO ILLUSTRATE TYPICAL MINIMUM INFORMATION REQUIRED AT THE TIME OF APPLICATION TO SRP. ADDITIONAL INFORMATION MAY BE REQUIRED

001	04/2021	MCA	MCA	PM	PM
REV. NO.	PROJECT NO.	DATE	DSGN ENGR	DFTR	DESIGN CHECK
SRP PHOENIX - ARIZONA					
XXX KW DC/ XXXKW AC PV SINGLE LINE DIAGRAM ADDRESS LINE 1 ADDRESS LINE 2					
SCALE: NONE					
01	E8	30x42	CLASS III 1MW		