Interconnection Policy Working Group

May, 22 2018

Agenda

- DG Checklists
  - System Diagram Checklist
  - Verification and Inspection Checklist
- DG Technology Guides

System Diagram Checklist

- The checklist is intended to cover the baseline requirements:
- Equipment Locations
- Title Block
- DG System Drawing Details
- Service Characteristic Drawing Details

DG up to 5MW System Diagram Checklist

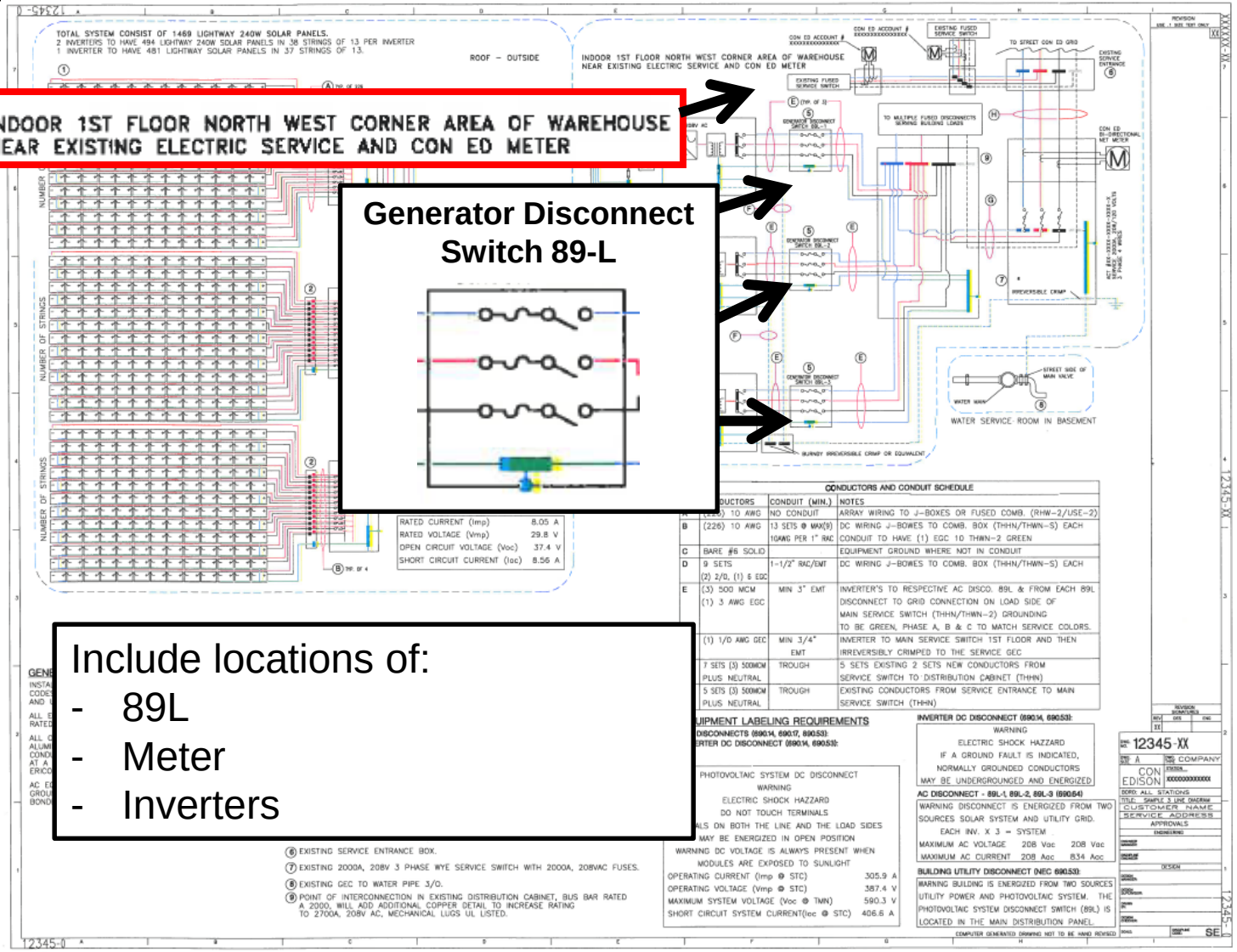
This checklist will be used to conduct system diagram review prior to Con Edison giving approval to build.

These checklist items are intended to cover the baseline requirements for the majority of cases; however, unique configurations or operating uses may have additional requirements.

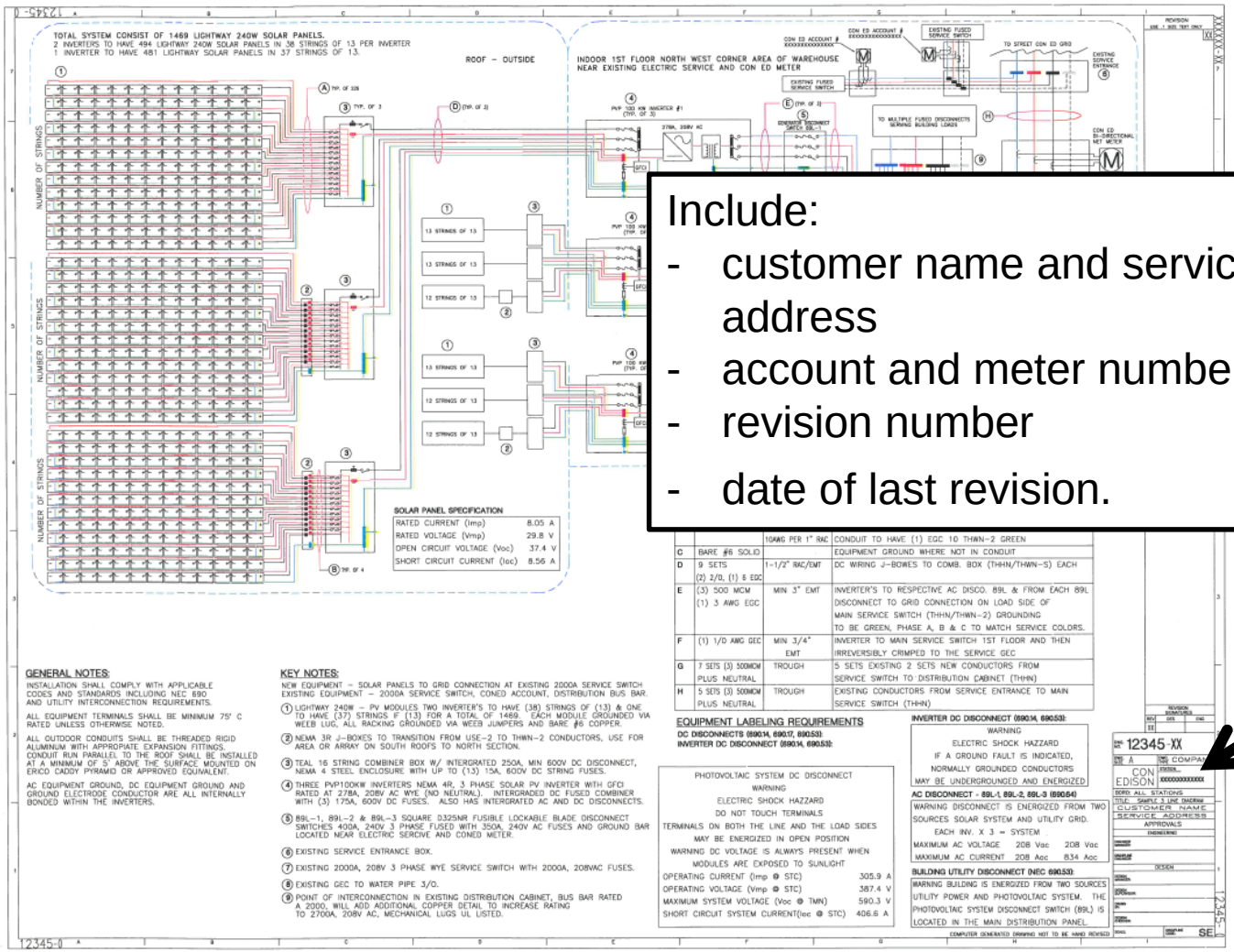
Component	Details	Check box
Three Line Drawing	Does drawing show three (3) lines for each phase, **OR** one (1) line with clear indications that all three phases are identical?	
P.E. Stamp	If connecting to system voltage > 1,000 V, **OR** If qualifying as efficient CHP as per Form G, are drawings sealed by a NYS active P.E.?*	
Equipment Locations	Are locations (e.g., basement, roof, electrical room) clearly noted for disconnect switch ("89L"), meter, and all inverters?	
Title Block	Does the title block include: Customer name and address?	
	Account and Meter Number?	
	Revision number and date of last revision?	
DG System Drawing Details	Is the DG Type (e.g., PV, Battery, Fuel Cell, etc.) clearly labelled on drawing?	
	Is the A.C. nameplate kW clearly labelled?	
	Is the 89L (for each generator disconnect switch) clearly labelled?	
	Is the make and model of the inverter clearly labelled and does it match submitted technical specifications?	
	Is all CHP isolation/protection equipement clearly labeled (e.g. reverse power relays)?	
Service Characteristics Drawing Details	Is the Con Edison existing service type and configuration clearly labelled? (e.g. 120/208V, 120/240V, 265/460V)	
	Is the grounding connection clearly labeled?	
	If there is existing DG on site, is the connection to existing system and size labeled and clearly shown on diagram?	

*Note that projects that connect to the Con Edison system < 1,000V do not require a P.E. Stamp. (page 12 of SIR)

Equipment Locations and Labeling

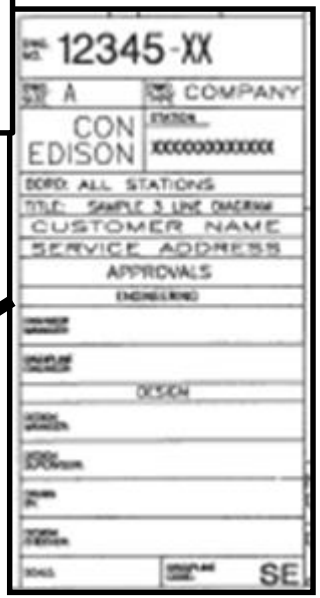


Title Block



Include:

- customer name and service address
- account and meter number
- revision number
- date of last revision.



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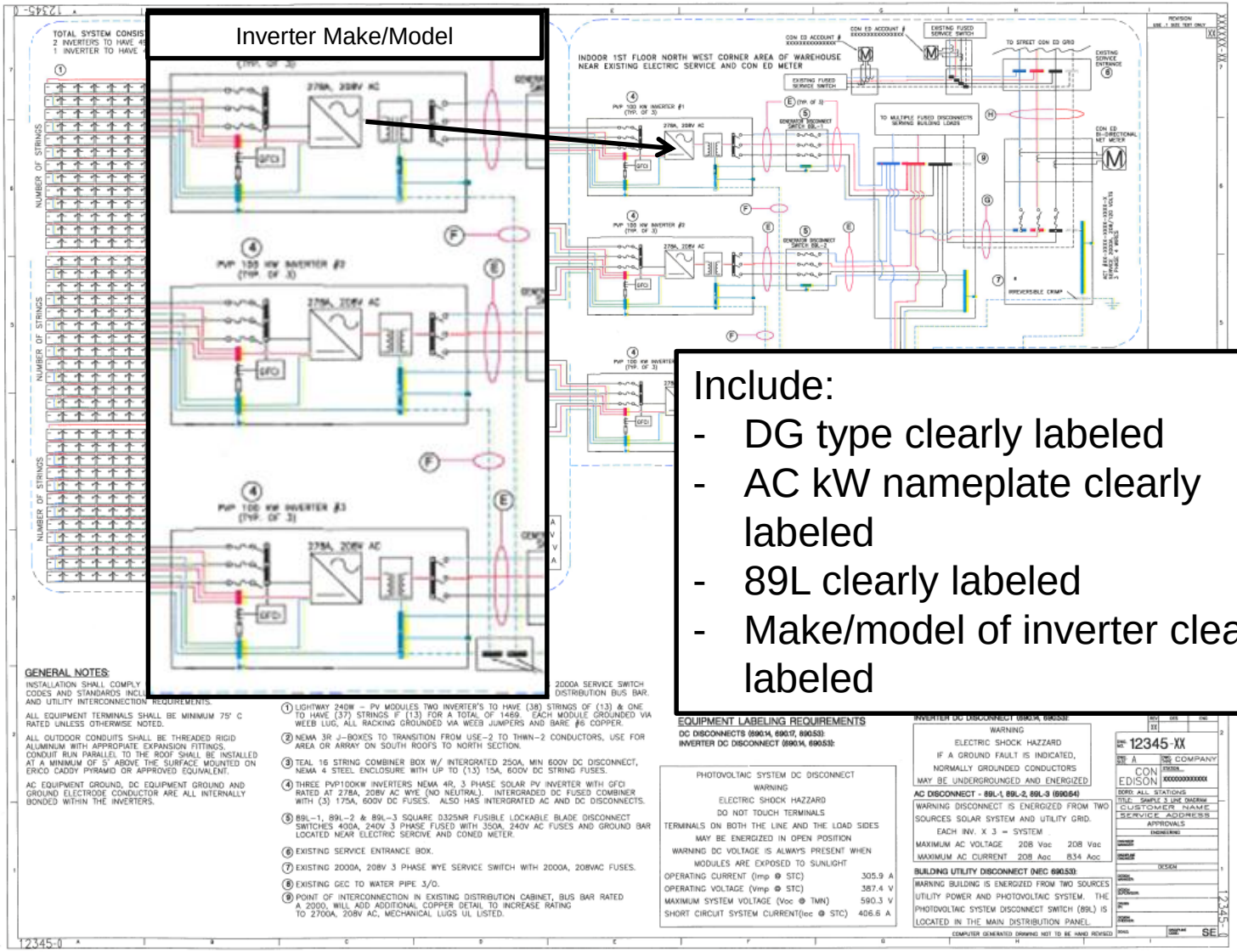
DG System Drawing Details



Include:

- DG type clearly labeled
- AC kW nameplate clearly labeled
- 89L clearly labeled
- Make/model of inverter clearly labeled

Verification Testing and Inspection Checklist

- This checklist should be used prior to requesting site Verification Test
- Common reasons for failure:
  - 89L (disconnect switch): signage and external, manual, visible break, gang operated, load break disconnecting switch
  - Grounding
  - Design vs. build
  - Operational 5 minute test of each inverter
- Appeal process dl-dginspectionappeal@coned.com

Prior to Requesting Site Verification Test: Applicant Checklist	
Component	**Details**
Drawing Version	Has latest drawing version been submitted to Project Center and approved by Con Edison?
Pre-testing	Has applicant verified that all inverters are operational? Does applicant have testing procedures available for review during testing? (Applicant should verify whether testing restrictions are in place prior to pre-test)
Local municipality sign-off	Has the project passed the local building department inspection? Have Electrical/Inspection Application # and Inspection Completion Signoff Date available.
Attendance	The following personnel should be present: applicant, facilities representative with access, and any required technicians.

Site Verification Test – To Be Completed by Con Edison Engineering		
Component	**Details**	**Check box (failed steps in grey require re-inspection)**
Disconnect Switch ("89L")	Are directions to 89L clearly marked at meter location?	
	Is the 89L: clearly labelled?	
	visibly broken when operated?	
	load breaking?	
	gang operated?	
	lockable?	
Grounding	Is the switchgear properly grounded?	
	Is the inverter properly grounded (if necessary)?	
	Are the panels properly grounded (if necessary)?	
Consistency with Submitted Drawing	Does the nameplate kW match approved drawing?	
	Does the inverter make and model match the approved drawing?	
	Is the DG system interconnected to Con Edison's system as shown in the approved drawing?	
Operation Check	Does the customer DG system pass the 5 minute test? (carried out by the customer, witnessed by Con Edison)	
	Is the inverter output (voltage and power) balanced?	
	Are inverter settings as agreed upon with Con Edison, as applicable?	
Reverse Power Relay (if applicable)	Is the reverse power relay connected correctly?	
	Is the reverse power relay programmed correctly?	
	Does the reverse power relay operate correctly?	
	Are CTs located outside of Con Edison CT cabinet?	
	Is the latest approved drawing laminated and posted near the meter?	

Guides for DG Technology

- Developed guides for solar and fuel cell interconnection projects under 5MW
- Contains high level details of:
- The electric interconnection process
- Typical steps
- Challenges and technical solutions associated with DG projects