NG Islanding Protection Supplement to ESB’s 756 “flow chart version”

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Provided to support review and discussion of NG’s new ESB Supplement requirements dated 11/07/2016
For All Generators

Is aggregate generation ≤ 33% of minimum load

No

Is DER > 300kW and utility feeder voltage < 5kV?

No

DER > 50% site minimum load & PCC > 15kV on radial line

No

DER > 50% site minimum load & PCC > 15kV and < 45kV

No

Special Connections**

No

Go to certification check

Yes

No Requirements

Utility Recloser Required

Additional EPS protection schemes required*

Yes

*including but not limited to direct transfer trip

**Special connections include:
- If line faults (phase and ground where applicable) cannot be cleared by DER protective device.
- Unique arrangements not explicitly defined within this document at National Grid’s discretion.
- If the DER cannot be tripped off with utility-owned devices when automated sectionalizing schemes will operate.

Based on ESB Supplement 756: Version Beta – 11/07/2016

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For UL1741 certified DER

Is DER certified? #?
- Yes
- No
  - Go To Next Slide

Is DER less than 50kW?
- Yes
- No

Is DER less than 500kW?
- Yes
- No

Is DER less than 1000kW?
- Yes
- No

% uncertified aggregate DER?
- Yes
- No
  - %≤10%
  - 10%-25%
  - >25%
  - Sandia Screening

DER ≥ 500kW and >67% min load?
- Yes
- No
  - No extra requirements
  - <10%
  - >10%-25%
  - >25%

Utility Recloser & Reclose Blocking##
- Yes
- No

Utility Recloser Required
- Yes
- No

Optional ROI Study*
- Pass
- Fail

Utility Recloser Required
- Yes
- No

Is aggregate DER > 50% min load?
- Yes
- No

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#Certified DER must trip at 88% of nominal voltage

## When reclose blocking is required is it applied at PCC and mid-line reclosers, but not at feeder head

% uncertified aggregate DER?
- Yes
- No
  - %≤10%
  - 10%-25%
  - >25%

Sandia Screening
- Pass
- Fail

Optional ROI Study*
- Pass
- Fail

Utility Recloser Required
- Yes
- No

Is aggregate DER > 50% min load?
- Yes
- No
For non-UL1741 certified DER

Is DER ≤ 50kW?

ANSI C37.90 (IEEE 1547) Relay Required

Aggregate DER > 33% of minimum load?

No

DTT & ANSI C37.90 (IEEE 1547) Relay Required

Yes