CEASE-TO-ENERGIZE TEST
IN A SELF-ADMINISTERED COMPLIANCE PROGRAM

Interconnection Customer will perform a "cease-to-energize test" (aka an "anti-islanding test") in the initial inspection of uninspected facilities and perodic inspection under the self-administered compliance program.

Overall Process

There are two options available for the Interconnection Customer to perform the cease-to-energize test.

Once the cease-to-energize test is complete at one facility, Duke Energy will collect the test report to review and keep the record for future reference.

1. Duke Assisted Test

Duke believes the safest and most expeditious form of performing the test is for Duke to dispatch resources to operate Duke's recloser at the POI. The Interconnection Customer's testing team can schedule the test with Duke Energy by contacting DER Operations (DEROperations@duke-energy.com). Duke Energy I&C tech will meet the customer's testing team onsite to support the test. The Interconnection Customer's testing team shall assign the responsible person to administer and supervise the test. The test procedure and results shall be documented in a test report prepared and signed by the supervisor. Duke Energy I&C tech will operate Duke's recloser to perform the single-phase open test and three-phase open test. The I&C tech is not responsible for determining the test result. In case the I&C tech may have any concerns or comment about the test procedure or result, the comment shall be documented in the test report.

Safety Note for Duke Assisted Test

If Duke has no recloser at the POI or the existing recloser is not capable of single-phase operation, the test plan will be mutually determined between Duke and the Interconnection customer. If there is any concern either from Duke or from the Interconnection Customer about the safety in performing the cease-to-energize test, the test will be put on hold until the concern is fully addressed and a test plan is agreed upon by both Duke and the Interconnection Customer.

2. Self-test Without Duke Assistance

Alternatively, the Interconnection Customer may perform self-test per IEEE 1547.1-2005, section 7.5.1 when the DER facility is able to disconnect individual phases and all three phases with its own equipment at or immediately adjacent to the POI. The test procedure and results shall be

documented in a test report prepared and signed by the person who administered and supervised the test.

Safety Note for Self-test

The Interconnection Customer shall inform Duke of the self-test schedule by contacting DER Operations (DEROperations@duke-energy.com). It has been noticed that when a customer is switching on/off the whole site or part of the site, the inrush current may trip Duke's recloser. Duke's recloser will auto-reclose in 2-3 min if the grid side voltage is healthy.

In case of unexpected Duke's recloser opening, please direct the onsite crew to pause the test and contact the DCC hotline immediately:

- DEP – Raleigh DCC: 1-800-201-4815 Option#6
- DEC – Charlotte DCC: 1-800-726-5150

Requirements and Passing Criteria

The requirements of the cease-to-energize test are:

- The Outside-The-Fence Facilities have been inspected without any pending corrections.
- The critical components in the facility have been verified, and there is no pending reconstruction.
- The DER functional settings have been reviewed before the test.
- The facility must be capable of generating rated AC power under favorable weather conditions.
- Weather conditions must permit the site to generate at least 20 percent of rated current (AC) in order to conduct the tests.

Passing Criteria for the Cease-to-Energize Test:

- Three-Phase Test
    - The PV facility shall cease energization within 2 seconds of a three-phase open condition.
    - When the utility connection is restored, the inverters must restart predictably and consistently at the expected time. The expected time is based on Duke Energy's required inverter restart delay setting of 300 seconds.
- Single-Phase Tests
    - The PV facility shall cease energization within 2 seconds of each single-phase open condition.

- When the utility voltage on the open phase is restored, the inverters should restart predictably and consistently at the expected time. The expected time is based on Duke Energy's required inverter restart delay setting of 300 seconds.

The facility must meet the cease to energize within 2 seconds requirement to continue commercial operation after the test. If the restart timing cannot fully meet the requirement, the facility is allowed to operate, but the test results will be further reviewed and may lead to follow-up actions.

Revision History

Revision	Date	Comments
1.0	9/28/2021	Initial release
1.1	11/4/2021	Apply to all IC in general