INSTALLER AND INSPECTOR QUICK-REFERENCE: 2025 NRCA-LTI-04-A

Demand Responsive Controlled Receptacles

Purpose and Scope of the Test

The purpose of this test is to ensure that demand responsive controls can turn off all loads connected to controlled receptacles when a demand response signal is received.

Demand responsive controls allow buildings loads to be managed automatically in response to grid or economic needs. The decision to employ demand response is up to the building owner or manager, in coordination with their utility company and/or a governing authority.

Demand responsive controls can help building owners save energy and reduce electricity bills by automatically reducing non critical building loads when electricity demand is at a peak.

Test Trigger

This test is required when demand responsive controlled receptacles are required to be installed in nonresidential and hotel/motel buildings, and in multifamily building common use spaces per Section 130.5(d) or 160.6(d).

Exception: Spaces where a health or life safety statute, ordinance, or regulation does not permit the receptacles to be automatically controlled.

Spaces that require controlled receptacles include office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms, and hotel/motel guest rooms. The control must be capable of automatically shutting off the controlled receptacle when the space is typically unoccupied. Automatic time-switch controls and occupant sensing controls may be used to meet this requirement.

Relevant Energy Code References and Required Compliance Documents

Title 24, Part 6 of the California Building Standards Code, Building Energy Efficiency Standards (Energy Code) sections 110.12(a), 110.12(e), 130.5(d), 130.4(a), 160.6(d), 160.6(e), 160.5(e)1; Reference Nonresidential Appendix NA7.6.5; NRCC-ELC-E, LMCC-ELC-E.

Who Can Perform the Test

This test must be performed by an Acceptance Test Technician certified by a California Energy Commission approved Acceptance Test Technician Certification Provider, using compliance document NRCA-LTI-04-A.

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Required Tools

This test requires a voltmeter to measure the voltage of controlled receptacles.

Estimated Time to Complete Test

Construction inspection: 0.25 to 0.5 hours.

Functional testing: 0.5 to 1 hours, depending on the number of controlled receptacles.

Potential Issues and Cautions

For controlled receptacles that use automatic time-switch controls, the manual override time limit can be adjusted to minimize test time, but the time limit setting must be reset (not to exceed 2 hours) upon completion of the test.

For controlled receptacles that use occupant sensing automatic shut-off controls, the test must be performed during a time when the acceptance test technician can have full control over the occupancy of the space. Occupant sensing control time delay can be adjusted to minimize test time, but the time delay setting must be reset (not to exceed 20 minutes) upon completion of the test.

Inspection Enforcement

- Verify that the construction inspection and functional testing items on NRCA-LTI-04-A are marked with "Complies".
- Verify the contact information of the acceptance test technician is complete with the acceptance test technician certification identification.
- Verify that all declaration statements on the last page of the NRCA-LTI-04-A are complete and that the document is signed.
- All NRCA forms for Lighting Controls must have a water mark logo from a certified Lighting Controls ATTCP Provider.

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Acceptance Criteria

Controlled receptacles are controlled by an automatic shut-off control and the controlled receptacle is marked to differentiate them from uncontrolled receptacles or circuits.

Automatic shut-off controls

- The shut-off controls can turn the controlled receptacle on, and each receptacle has full voltage present.
- The shut-off control can automatically turn controlled receptacles off, and each receptacle has zero voltage present (deenergized).

Demand Responsive Controls

- When a demand response signal is received, each controlled receptacle has zero voltage present (deenergized).
- During a demand response condition, controlled receptacles cannot be overridden to turn ON by the automatic shut-off controls or by any manual control.

Follow the **Construction Inspection** and **Functional Testing** instructions on NRCA-LTI-04-A.