

<b>INSTALLER and INSPECTOR QUICK-REFERENCE: 2022 NRCA-MCH-19-A Nonresidential Occupancy Sensor Acceptance Testing</b>	
<b>Purpose and Scope of the Test</b>	
This test verifies that an installed occupancy sensor is functional and in compliance with the approved project designs and the Energy Code. The technician must submit one Certificate of Acceptance for each occupancy sensor installed.	
<b>Test trigger</b>	
Performed on newly installed occupancy sensors in newly constructed buildings, or additions and alterations to existing buildings.	
<b>Relevant Energy Code References and Required Compliance Documents</b>	
Title 24, Part 6 of the California Building Code, Building Energy Efficiency Standards (Energy Code) sections 10-103(a)2A, 120.1(d)2, 120.1(c), 120.2(e)3, 120.5(a)18, 160.2(c), 160.2(c)4B, 160.3(a)2Diii, 160.3(d)1R; NA7.5.17; NRCC-MCH-E Table J.	
<b>Who Can Perform the Test</b>	
This test must be performed by an acceptance test technician certified by a CEC-approved Acceptance Test Technician Certification Provider, using compliance document NRCA-MCH-19-A.	
<b>Required Tools</b>	
<ul style="list-style-type: none"> <li>• Airflow Hood (forced or ventilation, powered or non-powered). <ul style="list-style-type: none"> <li>○ The California Energy Commission (CEC) has a list of approved airflow hoods for residential applications that are also suitable for many nonresidential applications.</li> <li>○ CEC Approved Airflow Hoods (<a href="https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certification-building-equipment">https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacture-certification-building-equipment</a>).</li> </ul> </li> </ul>	
<b>Estimated Time to Complete Test</b>	
<ul style="list-style-type: none"> <li>• Construction Inspection: 0.5 hours</li> <li>• Functional testing: 0.5 hours</li> </ul>	

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**Potential Issues and Cautions**

- A zone with multiple distribution registers will require that each register is tested for airflow and the total entered into the NRCA-MCH-19-A form.
- The NRCA-MCH-02-A (Outside Air) acceptance test is typically performed with the NRCA-MCH-19-A. However, in the rare instance when the NRCA-MCH-02 is not triggered, outside air flow measurements will be needed to complete the NRCA-MCH-19-A acceptance test.
- The HVAC control system is required to perform a pre-occupancy purge as part of the NRCA-MCH-02-A acceptance test.
- When a single zone damper or a single zone system serves multiple rooms, there must be an occupancy sensor in each room and the zone is not considered vacant until all rooms in the zone are vacant.

**Inspection Enforcement**

**Required:**

- Verify that each occupancy sensor is placed so that it can detect occupants without obstruction.
- Verify that the mechanical system is controlled by an independent signal if the same sensor also controls the lighting.

**Optional Equipment Check:**

The acceptance test technician should be able to produce and demonstrate the operation of the air flow hood required to perform this acceptance test.

**Acceptance Criteria**

This is a pass/fail acceptance test. All functional test steps must pass in order for the occupancy sensor to pass acceptance testing.

- The system must bring in the minimum ventilation air when occupied.
- The system must not bring in any ventilation air when unoccupied.
- The system must begin to bring in pre-occupancy ventilation no less than one hour prior to the expected occupied time.

Follow the **Construction Inspection** and **Functional Testing** instruction on form NRCA-MCH-19-A.