



Project Name and Address	Authority Having Jurisdiction
Name: Project Name	Enforcement Agency: Agency
Address: Project Address	Permit Number: Permit Number
City, Zip: City, Zip Code	Permit Application Date: Date

Building: Enter Value	Floor: Enter Value	Room: Enter Value	Control/tag: Value
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<input type="checkbox"/> Construction inspection and functional testing comply	Date Submitted to AHJ: Date
<input type="checkbox"/> Does not comply	

Intent:	Verify that the evaporative condenser has ambient wet-bulb following control and fan motor variable speed control. Reference NRCC-PRC-E NRCC-MCH-E for nonresidential (including nonresidential spaces in high-rise multifamily) building permits or LMCC-MCH-E for nonresidential spaces in low-rise multifamily building permits . Submit one Certificate of Acceptance for each system that must demonstrate compliance. Reference Sections 120.6(a)7C, 140.4(h), 170.2(c)4F and NA7.10.3.1.
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Table A: Construction Inspection

Prior to functional testing, verify and document all of the following:

Step	Entry	Item	Code Reference
1. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the minimum condensing temperature control setpoint is at or below 70°F.	NA7.10.3.1.1(a)
2. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the master system controller saturated condensing temperature input is the temperature equivalent reading of the condenser pressure sensor.	NA7.10.3.1.1(b)
3. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Verify that all drain leg pressure regulator valves (if used) are set below the minimum condensing temperature/pressure setpoint.	NA7.10.3.1.1(c)
4. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> N/A	Verify that all the receiver pressurization valves, such as the outlet pressure regulator (OPR), (if used) are set lower than the drain leg pressure regulator valve setting.	NA7.10.3.1.1(d)
5. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser pressure, temperature, and humidity sensors are read accurately.	NA7.10.3.1.1 (e, f, g)
6. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all temperature sensors used by the controller are mounted in a location that is not exposed to direct sunlight.	NA7.10.3.1.1(h)
7. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all sensor readings used by the condenser controller convert or calculate to the correct conversion units at the controller.	NA7.10.3.1.1(i)
8. <u>0</u>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser fan motors are operational and rotating in the correct direction.	NA7.10.3.1.1(j)



Step	Entry	Item	Code Reference
9.0	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser fan speed controls are operational and connected to condenser fan motors to operate the fans serving a common condenser loop in unison.	NA7.10.3.1.1(k)
10.0	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all speed controls are in "auto" mode.	NA7.10.3.1.1(l)
11.0	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Check "Pass" if construction inspection complies with all requirements. Check "Fail" if construction inspection does not comply with all requirements.	N/A

Table B: Functional Testing

The system cooling load must be sufficiently high to run the test, i.e. with a condensing temperature above the minimum SCT set point. The loads can often be increased somewhat as required to perform the Functional Testing.

Step	Entry	Functional Test	Code Reference
1.0	No Entry	Override any conflicting controls before performing functional tests.	NA7.10.3.1.2 Step 1
2.0	No Entry	Document the current operating conditions and the current set points in <u>Steps</u> 2.1, 2.2, 2.3, 2.4, 2.5, and 2.6:	NA7.10.3.1.2 <u>Step 2(a)</u>
2.1	<u>Enter Value °F</u>	<u>Current outdoor ambient air dry bulb temperature.</u>	<u>NA7.10.3.1.2 Step2(a)</u>
2.2	<u>Enter Value °F</u>	<u>Current outdoor ambient air wet bulb temperature.</u>	<u>NA7.10.3.1.2 Step2(a)</u>
2.3 ±	Enter Value	Current ambient relative humidity_(RH). (% RH)	NA7.10.3.1.2 Step 2(a)
2.2	Enter Value	Current ambient wet bulb temperature. (°F WBT) Calculate this value from the value or 2.1 and the ambient dry bulb temperature as necessary.	NA7.10.3.1.2 Step 2(a)
2.4 3	Enter Value <input type="checkbox"/> °F <input type="checkbox"/> psig	Current saturated condensing temperature (SCT) or condensing pressure.	NA7.10.3.1.2 Step 2(a)
2.4	Enter Value	Calculate the actual -condenser temperature difference (Actual -TD) <u>≡</u> [SCT – WBT]. (°F) <u>The SCT can be found in step 2.4 and the WBT can be found in step 2.2.</u>	NA7.10.3.1.2 Step 2(b)
2.5	Enter Value <input type="checkbox"/> °F <input type="checkbox"/> psig	Current- SCT or pressure control set point.	NA7.10.3.1.2 Step 2(cb)
2.6	Enter Value	Current condenser control temperature difference (Control TD). (°F)	NA7.10.3.1.2 Step 2(c)



Step	Entry	Functional Test	Code Reference
3.0	No Entry	Depending on the control strategy used, program a setpoint equal to the calculation obtained in Step 2.4 or the value in step 2.5. Update the Control TD set point to the Actual TD obtained in Step 2. This will be referred to as the "test set point." Allow 5 minutes for condenser fan speed to normalize.	NA7.10.3.1.2 Step 3
4.0	No Entry	Raise the test setpoint in 1°F (or 3 psi) increments until the condenser fan control modulates to minimum fan motor speed.	NA7.10.3.1.2 Step 4
4.1	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the fan motor speed decreases.	NA7.10.3.1.2 Step 4(d)
4.2	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser fan motors serving common condenser loop decrease speed in unison in response to controller output; observed at the control system and at the condenser(s).	NA7.10.3.1.2 Step 4(e)
4.3	Enter Value <input type="checkbox"/> rpm <input type="checkbox"/> %	Record the minimum fan speed. Enter with units as rpm, or percent of full speed (%).	NA7.10.3.1.2 Step 4(f)
4.4	No Entry	If system is already operating at minimum saturated condensing temperature/head pressure, reverse Steps 4 and 5.	NA7.10.3.1.2 Step 4(g)
5.0	No Entry	Lower the test setpoint in 1°F (or 3 psi) increments until the condenser fan control modulates to increase fan motor speed.	NA7.10.3.1.2 Step 5
5.1	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the fan motor speed increases.	NA7.10.3.1.2 Step 5(h)
5.2	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser fan motors serving common condenser loop increase speed in unison in response to controller output; observed at the control system and at the condenser(s).	NA7.10.3.1.2 Step 5(i)
6	No Entry	Verify the override minimum SCT setpoint.	NA7.10.3.1.2 Step 6
6.0-1	Enter Value	Document the current minimum SCT setpoint. (°F)	NA7.10.3.1.2 Step 6
6.1-2	No Entry	Using the control system, change the minimum condensing temperature setpoint to a value greater than the current operating condensing temperature.	NA7.10.3.1.2 Step 6
6.2-3	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the condenser fan controls modulate to decrease capacity.	NA7.10.3.1.2 Step 6(j)
6.3-4	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that all condenser fans serving common condenser loop modulate in unison.	NA7.10.3.1.2 Step 6(k)
6.4-5	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Verify that the condenser fan controls stabilize within a 5-minute period.	NA7.10.3.1.2 Step 6(l)



Step	Entry	Functional Test	Code Reference
7.0	No Entry	Restore the Control TD and the minimum SCT setpoint to the values recorded <u>in</u> Step 2.5 and 6.1.	NA7.10.3.1.2 Step 7
8.0	No Entry	Restore any controls disabled in Step 1.	NA7.10.3.1.2 Step 8
9.0	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Check <u>pass</u> if Functional Test complies with all requirements. <u>Check fail if any Functional Test does not comply.</u>	N/A

DRAFT



Declaration Statement	Signatory
Document Author I assert that this Certificate of Acceptance documentation is accurate and complete.	Name Company Name Author Signature Date Signed
Field Technician I assert the following under penalty of perjury, under the laws of the State of California: The information provided on this Certificate of Acceptance is true and correct. I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician). The construction or installation identified on this Certificate of Acceptance complies with the applicable acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and signed by the responsible builder/installer and has been posted or made available with the building permit(s) issued for the building.	Name Company Name ATT No.: ATT Cert. No. Title Phone Signature Date Signed
Responsible Person I assert the following under penalty of perjury, under the laws of the State of California: I am the Field Technician, or the Field Technician is acting on my behalf as my employee or my agent and I have reviewed the information provided on this Certificate of Acceptance. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Acceptance and attest to the declarations in this statement (responsible acceptance person) . The information provided on this Certificate of Acceptance substantiates that the construction or installation identified on this Certificate of Acceptance complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and is posted or made available with the building permit(s) issued for the building. I understand that a completed, signed copy of this Certificate of Acceptance shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to ensure this requirement is accomplished. I understand that a signed copy of this Certificate of Acceptance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to ensure this requirement is accomplished.	Name Company Name Lic. No.: License No. Title Phone Signature Date Signed