CONDENSER WATER SUPPLY TEMPERATURE RESET CONTROLS ACCEPTANCE

CERTIFICATE OF ACCEPTANCE		NRCA-MCH-17-A
Condenser Water Supply Temperature Reset Controls Acceptance		(Page 1 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:
System Name or Identification/Tag:	System Location or Area Served:	

Note: Submit one Certificate of Acceptance for each system that must demonstrate compliance.	Enforcement Agency Use: Checked by/Date

Intent:	*Ensure that the condenser water supply temperature is automatically reset as indicated in the control sequence(s).*

A. Construction Inspection

1. Supporting documentation needed to perform test may include, but is not limited to:

   a. As-built and/or Design Documents, including Mechanical Equipment Schedules and control schedules.

   b. 2016 Building Energy Efficiency Standards Nonresidential Compliance Manual *(NA7.5.65 Condenser Water Supply Temperature Reset Controls Acceptance At-A-Glance)*.

   c. Building Energy Efficiency Standards Nonresidential Appendix (Section NA7).

2. Instrumentation to perform test includes, but is not limited to:

   a. Hand-held temperature sensor
   _____*Date of calibration (must be within 1 year)*

   b. Hand-held relative humidity or wet-bulb temperature sensor
   _____*Date of calibration (must be within 1 year)*

3. Installation Verification:

   ☐ Check if the condenser water supply system and control system are installed per the system design, as documented on the building plans or as-built.

   ☐ Check if condenser water supply temperature control sequence, including condenser water supply high and low limits, are available and documented in the building documents.

   ☐ Check if all cooling tower fan motors are operational and cooling tower fan speed controls are installed, operational, and connected to cooling tower fan motors per OEM start-up manuals and sequence of operation.

   ☐ Check if cooling tower fan control sequence, including tower design wet-bulb temperature and approach, are available and documented in the building documents.

   ☐ Check if the following temperature sensors are installed per plans: outdoor air dry-bulb and wet-bulb, entering condenser water, and leaving chilled water. Note any discrepancies

4. Document that all system temperature and relative humidity sensors are factory or field calibrated or perform field check (check one of the following):

   ☐ Sensors are calibrated by others.
   Factory calibrated, or Field-calibrated by control contractor or technician, commissioning agent, or other.
   Calibration complete, all sensors ±2% of calibrated reference sensor (provide supporting documentation).

   ☐ I have performed a field check using a calibrated temperature standard (i.e. device that has been calibrated within the last 12 months).
   Check complete, all sensors ±2% of calibrated reference sensor (provide supporting documentation, including results from system sensors and calibrated reference standard).

5. From the control system, or using temperature sensors, document the following:

Outdoor air dry bulb temperature _____ ° F	Outdoor air wet bulb temperature _____ ° F
Entering condenser water temperature _____ ° F	Leaving chilled water temperature _____ ° F

CERTIFICATE OF ACCEPTANCE		NRCA-MCH-17-A
Condenser Water Supply Temperature Reset Controls Acceptance		(Page 2 of 3)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:
System Name or Identification/Tag:	System Location or Area Served:	

B. Functional Testing

The system cooling load must be sufficiently high to run the test. If necessary, artificially increase the cooling / evaporator load to perform the functional tests. If necessary, reverse Steps 1 & 2 in the test based on atmospheric conditions and building loads.

EXEMPTION: If the control sequence differs significantly from that implied by the tests, and / or has already been tested during the building commissioning process, attach a description of the control sequence, a description of the tests that were done to verify the system operates according to the sequence, the test results, and a plot of any associated trend data.

Reset control parameter is: ☐ Outside air wet-bulb temperature ☐ Load signal from chiller
☐ Condenser water & chilled water temperatures ☐ Other _____.

Step 1: Adjust the reset control parameter to decrease the condenser water temperature (toward the lower supply temp. limit)		
a.	Condenser water temperature controls modulate as intended.	Yes ○ No ○
b.	Actual condenser water supply temperature decreases to meet new set point ± 2°F.	Yes ○ No ○
c.	Cooling tower fan(s) stage properly and/or adjust speed accordingly to meet lower set point.	Yes ○ No ○
d.	Chiller load amps decrease.	Yes ● No ●
Step 2: Adjust the reset control parameter to increase the condenser water temperature (toward the upper supply temp. limit)		
a.	Condenser water temperature controls modulate as intended.	Yes ○ No ○
b.	Actual condenser water supply temperature increases to meet new set point ± 2°F.	Yes ○ No ○
c.	Cooling tower fan(s) stage properly and/or adjust speed accordingly to meet upper set point.	Yes ○ No ○
d.	Chiller load amps increase.	Yes ○ No ○
Step 3: Restore reset control parameter to automatic control.		
a.	Condenser water temperature controls modulate as intended.	Yes ○ No ○
b.	Actual condenser water supply temperature changes to meet new set point ± 2°F.	Yes ● No ●
c.	Cooling tower fan(s) stage properly and/or adjust speed accordingly to meet set point.	Yes ○ No ○

C. Evaluation

☐ **PASS**: All **Construction Inspection** responses are complete and **Functional Testing Results** are all circled **YES**.

Notes:

CONDENSER WATER SUPPLY TEMPERATURE RESET CONTROLS ACCEPTANCE

CERTIFICATE OF ACCEPTANCE	NRCA-MCH-17-A
Condenser Water Supply Temperature Reset Controls Acceptance	(Page 3 of 3)

Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:
System Name or Identification/Tag:	System Location or Area Served:	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Acceptance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	ATT Certification Identification (If applicable):
City/State/Zip:	Phone:

FIELD TECHNICIAN'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Acceptance is true and correct.
2. I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician).
3. 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.
4. 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.

Field Technician Name:	Field Technician Signature:	
Field Technician Company Name:	Position with Company (Title):	
Address:	ATT Certification Identification (if applicable):	
City/State/Zip:	Phone:	Date Signed:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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.
2. 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).
3. 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.
4. 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.
5. I will ensure 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. 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.

Responsible Acceptance Person Name:	Responsible Acceptance Person Signature:	
Responsible Acceptance Person Company Name:	Position with Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone:	Date Signed: