



CERTIFICATE OF INSTALLATION		NRCI-MCH-E	
<i>This Certificate of Installation is used to document the installation of mechanical features, materials, components, and manufactured devices required to demonstrate compliance with Title 24, Part 6 per §10-103(a)3 for nonresidential, hotel/motel and high-rise residential occupancies.</i>			
Project Name:		Report Page:	
Project Address:		Date Prepared:	

Commented [BSN1]: This is a concept draft circulating for feedback from installers, general contractors and building inspectors.
 Please send feedback to Alexis.Markstrum@energy.ca.gov

A. GENERAL INFORMATION			
01	Project Location (city):	05	Authority Having Jurisdiction:
02	Zip Code:	06	Permit #:
03	Date of Permit Set used for construction:	07	Date of As-built Set:
04	Name of Permit Set used for construction:	08	Name of As-built Set:

Commented [BSN2]: These fields will tell the inspector if the installer was using a different set for construction than what was permitted, and if an as-built set was created.

Commented [BSN3]: This table will tell the inspector where the install differed from the permit set.

B. INSTALLATION DETAILS				
<i>Indicate the building feature you or your company installed below in column 01 (select all that apply). Then review the permitted plans, specifications and Energy Code form* and select all Energy Code items in column 02 where there is a difference between the permitted documents and as-builts. Note the differences for these Energy Code items in column 03.</i>				
01	02	03	04	
Select building feature installed:	Select all Energy Code items where permit set differs from as-builts:	Describe the difference between permitted and as-built:	Field Inspector	
			Pass	Fail
<input type="checkbox"/> Dry System (Airside) Equipment	<input type="checkbox"/> Equipment Type (air-cooled vs. water-cooled, split vs pkg) <input type="checkbox"/> Equipment Efficiency <input type="checkbox"/> Rated Output Capacity for Heating and/or Cooling (kBtu/h) <input type="checkbox"/> Quantity <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>

Commented [BSN4]: There would not be a new row for each system, the installer would need to describe here any changes for all airside systems on the project. This can be more clearly prompted through an online user interface if the form is completed online.

Commented [BSN5]: If this form is completed online, this checkbox could grey out column 03 for this row.

* Compliance with Title 24, Part 6 may be via the prescriptive or performance path for mechanical building components. If mechanical features have complied prescriptively, you will see the NRCC-MCH-E form as part of the permit documents. If mechanical features have been included in the energy model and complied via the performance path, you will see it on the NRCC-PRF-E form.

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01	02	03	04	
Select building feature installed:	Select all Energy Code items where permit set differs from as-builts:	Describe the difference between permitted and as-built:	Field Inspector	
			Pass	Fail
<input type="checkbox"/> Boiler	<input type="checkbox"/> Equipment Type (hot water vs. steam, gas vs. oil-fired) <input type="checkbox"/> Equipment Efficiency <input type="checkbox"/> Rated Input Capacity (kBtu/h) <input type="checkbox"/> Quantity <input type="checkbox"/> Temperature Reset Controls <input type="checkbox"/> Isolation valve <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Chiller	<input type="checkbox"/> Equipment Type (air vs. water-cooled, absorption, etc.) <input type="checkbox"/> Equipment Efficiency <input type="checkbox"/> Size (tons) <input type="checkbox"/> Quantity <input type="checkbox"/> Temperature Reset Controls <input type="checkbox"/> Isolation valve <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>

Commented [BSN6]: How should we deal with controls? Should they go under the equipment (like we have it here), or under a separate building feature row for "Controls"?

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01	02	03	04	
			Pass	Fail
Select building feature installed:	Select all Energy Code items where permit set differs from as-builts:	Describe the difference between permitted and as-built:	Field Inspector	
<input type="checkbox"/> Heat Rejection Equipment Cooling Towers, Condensers, Waterside Economizers	<input type="checkbox"/> Equipment Type (fan type, closed vs open circuit, etc.) <input type="checkbox"/> Equipment Efficiencies/Performance <input type="checkbox"/> Quantity <input type="checkbox"/> Fan Speed Controls <input type="checkbox"/> Condenser Water Temp. Reset <input type="checkbox"/> Economizer Controls <input type="checkbox"/> Minimum Flow GPM <input type="checkbox"/> Flow Turndown Controls <input type="checkbox"/> Multiple Cell Fan Control <input type="checkbox"/> Cooling Tower LSI <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Ventilation	<input type="checkbox"/> Minimum Outdoor Airflow (CFM) <input type="checkbox"/> Transfer Air (CFM) <input type="checkbox"/> Demand Control Ventilation Controls <input type="checkbox"/> Occupant Sensor Controls <input type="checkbox"/> Air Filtration Devices <input type="checkbox"/> Local Exhaust (high-rise res only) <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>

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01 Select building feature installed:	02 Select all Energy Code items where permit set differs from as-builts:	03 Describe the difference between permitted and as-built:	04 Field Inspector	
			Pass	Fail
<input type="checkbox"/> Pumps	<input type="checkbox"/> Quantity <input type="checkbox"/> Horsepower (HP or BHP) <input type="checkbox"/> Variable Flow Controls <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Fans and Air Economizers	<input type="checkbox"/> Quantity <input type="checkbox"/> Design Airflow (CFM) <input type="checkbox"/> Horsepower (HP or BHP) <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> System Controls	<input type="checkbox"/> Type of Thermostat (Setback, EMCS, demand response) <input type="checkbox"/> Shut Off Controls (Timeswitch, occ sensor, card key, etc.) <input type="checkbox"/> Window/ Door Interlock Controls <input type="checkbox"/> Isolation Zone Controls (Timeswitch, occ sensor, etc.) <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Terminal Box Controls	<input type="checkbox"/> Primary Peak Airflow (CFM) <input type="checkbox"/> Outside Air (CFM) <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>

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01	02	03	04	
			Field Inspector	
Select building feature installed:	Select all Energy Code items where permit set differs from as-builts:	Describe the difference between permitted and as-built:	Pass	Fail
<input type="checkbox"/> Ducts	<input type="checkbox"/> Insulation R-value <input type="checkbox"/> Leakage Sealing <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Pipes	<input type="checkbox"/> Diameter <input type="checkbox"/> Insulation Thickness <input type="checkbox"/> No difference between permit set & as-builts for all items listed above		<input type="checkbox"/>	<input type="checkbox"/>

C. ACCEPTANCE TESTS & FIELD VERIFICATION

Mechanical system and control installations may require Acceptance Testing or HERS verifications to comply with Title 24, Part 6. Please confirm below that coordination has been conducted with a field technician, certified Acceptance Testing Technician, or a HERS Rater, or that there are no applicable NRCA or NRCV documents required per the permitted NRCC-MCH-E or permitted NRCC-PRF-E*.*

Field coordination has been conducted with a field technician, certified Acceptance Test Technician or HERS Rater to complete the acceptance tests/ HERS verifications and NRCA/NRCV documents indicated as required by the permitted NRCC-MCH-E or permitted NRCC-PRF-E, or

The permitted NRCC-MCH-E or permitted NRCC-PRF-E do not indicate any NRCA or NRCV forms as required documents.

Commented [BSN7]: The intention of this section is to ensure the installer knows when Acceptance Testing is required and confirm they are working with an Acceptance Test Tech. or Field Tech.

This will also help the inspector verify whether the installer worked with the ATT/FT.

If the installer checks that no AT is required, but the NRCC shows that it was, CEC can investigate the reason for the breakdown and figure out an appropriate solution.

* See Tables O. and P. on the permitted NRCC-MCH-E or Table P. on the permitted NRCC-PRF-E to determine if the NRCA-MCH or NRCV-MCH forms are required for compliance. These documents must be provided to the building inspector by the installer before permit final. Who may complete the form is dictated by the letter at the end of the form name. Forms ending in "-F" may be completed by a field technician (which may be the installer), forms ending in "-A" must be completed by a certified Acceptance Test Technician and forms ending in "-H" must be completed by a HERS Rater.



DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		
1. I certify that this Certificate of Installation documentation is accurate and complete.		
Documentation Author Name:	Documentation Author Signature:	
Documentation Author Company Name:	Date Signed:	
Address:	CEA Certification Identification (If applicable):	
City/State/Zip:	Phone:	
RESPONSIBLE PERSON'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 Installation is true and correct. 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 Installation and attest to the declarations in this statement (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer. 3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency. 4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met. 5. I will ensure that a completed signed copy of this Certificate of Installation 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 completed signed copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.		
Responsible Builder/Installer Name:	Responsible Builder/Installer Signature:	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)	Position With Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone	Date Signed: