ALTERATIONS TO SPACE CONDITIONING SYSTEMS

CALIFORNIA ENERGY COMMISSION

CEC- LMCC-MCH-02-E

SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

CERTIFICATE OF COMPLAINCE

Project Name:	Enforcement Agency:
Dwelling Address:	Permit Number:
City and Zip Code:	Permit Application Date:

A. General Information

LMCC-MCH-02 is applicable to multiple space conditioning systems contained within a single dwelling unit.

01	Date Prepared	
02	Building Type	
03	Dwelling Unit Name/Type	
04	Dwelling Unit Count	
05	Climate Zone	
06	Dwelling Unit Total Conditioned Floor Area (ft^2)	
07	Number of Space Conditioning Systems in this Dwelling Unit	

B. Space Conditioning (SC) System Information

01	02	03	04	05	06	07	08	09	10
SC System ID/Name	SC System Description of Area Served	CFA served by this SC System (ft^2):	Is the SC system a ducted system?	Installing a refrigerant containing component?	Installing new SC system components?	Installing more than 25 feet of ducts?	Installing entirely new duct system?	Installing entirely new SC system?	Alteration Type:

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C. Extension of Existing Duct System, Greater Than 25 Feet (Section 180.2(b)2AiiaII)

Required Documentation:

LMCI-MCH -01-E - Space Conditioning Systems

-Duct insulation requirement for the new portions of supply-air and return-air ducts or plenums: R-6 (CZ 3, 5-7and R-8 (CZ1,2,4, 8-16).

LMCI & LMCV-MCH-20-H – Duct Leakage Test

-Leakage rate compliance: less than or equal to 10%, or less than or equal to 7% leakage to outside, or seal all accessible leaks

Exceptions:

Existing duct systems constructed, insulated, or sealed with asbestos are exempt from MCH-20 duct leakage testing requirements

01	02	03
SC System ID/Name	SC System Description of Area Served	Required New Duct R-Value

ALTERATIONS TO SPACE CONDITIONING SYSTEMS

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D. Altered Space Conditioning System (Sections 180.2(b)2)

Required Documentation:

LMCI-MCH-01-E - Space Conditioning Systems

-Duct insulation requirement for the new portions of supply-air and return-air ducts or plenums: R-6 (CZ3, 5-7) and R-8 (CZ1,2,4, 8-16)

LMCI & LMCV-MCH-20-H – Duct Leakage Test required when heating or cooling components are installed in ducted systems, or when more than 25 ft of duct length is replaced.

-Leakage rate compliance: less than or equal to 10%, or less than or equal to 7% leakage to outside, or seal all accessible leaks.

LMCI & LMCV-MCH-25-H Refrigerant Charge verification required when refrigerant containing components are installed or altered (applicable in CZ 2, 8-15).

LMCI & LMCV-MCH-23 Airflow Rate greater than or equal to 300 CFM/ton required when MCH-25 is required.

Exceptions:

-Duct systems registered with ECC provider as previously sealed are exempt from MCH-20 Duct Leakage Testing requirements.

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-Existing duct systems constructed, insulated, or sealed with asbestos are exempt from MCH-20 Duct Leakage Testing requirements.

01	02	03	04	05	06	07	08	09	10	10b	11	12	13
SC System ID/Name	SC System Description of Area Served	Heating System Type	Altered Heating Component	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Components	Cooling Efficiency Type	Cooling Minimum Efficiency Value SEER/SEER2	Cooling Minimum Efficiency Value EER/EER2/ CEER	Required Thermostat Type	New or Replaced Duct Length	New Duct R-Value

ALTERATIONS TO SPACE CONDITIONING SYSTEMS

SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

E. Entirely New or Complete Replacement Duct System, with or without Equipment Changeout (Sections 180.2(b)2Aiial and 180.2(b)2aiii)

Required Documentation:

LMCI-MCH-01-E - Space Conditioning Systems

-Duct insulation requirement for the new portions of supply-air and return-air ducts or plenums: R-6 (CZ3,5-7) and R-8 (CZ1,2,4, 8-16)

LMCI & LMCV-MCH-20-H Duct Leakage Test required.

-Leakage rate compliance: less than or equal to 5 percent.

LMCI & LMCV-MCH-22 Fan Efficacy

LMCI & LMCV-MCH-23 Airflow Rate

-Compliance: Fan Efficacy less than or equal to 0.58 W/cfm for non-gas furnaces and System Airflow greater than or equal to 350 cfm/ton.

-Alternative Compliance: LMCI & LMCV-MCH-28 Return Duct Design verification is an alternative to MCH-22 and MCH-23 verification.

LMCI & LMCV-MCH-25-H Refrigerant Charge verification required when refrigerant containing components are installed or altered (applicable in CZ 2, 8-15).

Note:

An "entirely new or complete replacement duct system" means at least 75 percent of the duct system is new duct material, and up to 25 percent may consist of reused parts from the dwelling unit's existing duct system (e.g., registers, grilles, boots, air handler, coil, plenums, duct material) if the reused parts are accessible and can be sealed to prevent leakage

01	02	03	04	05	06	07	08	09	10	10b	11	12
SC System Identification or ID/Name	SC System Description of Area Served	Heating System Type	Altered Heating Component	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Components	Cooling Efficiency Type	Cooling Minimum Efficiency Value SEER/SEER2	Cooling Minimum Efficiency Value EER/EER2/ CEER	Required Thermostat Type	New Duct R-Value

SAMPLE FORM – NOT VALID FOR SUBMISSION TO BUILDING DEPARTMENTS

F. Entirely New or Complete Replacement Space Conditioning System (180.2(b)2Ai)

Required Documentation:

LMCI-MCH-01-E - Space Conditioning Systems

-Duct insulation requirement for the new portions of supply-air and return-air ducts or plenums: R-6 (CZ3, 5-7) and R-8 (CZ1,2,4, 8-16)

LMCI & LMCV-MCH-20-H Duct Leakage Test required.

-Leakage rate compliance: less than or equal to 5 percent.

LMCI & LMCV-MCH-22 Fan Efficacy

LMCI & LMCV-MCH-23 Airflow Rate

-Compliance: Fan Efficacy less than or equal to 0.58 W/cfm for non-gas furnaces and System Airflow greater than or equal to 350 cfm/ton.

- Alternative Compliance: LMCI & LMCV-MCH-28 Return Duct Design verification is an alternative to MCH-22 and MCH-23 verification.

LMCI & LMCV-MCH-25-H Refrigerant Charge verification required when refrigerant containing components are installed or altered (applicable in CZ 2, 8-15).

Note:

An "entirely new or complete replacement duct system" means at least 75 percent of the duct system is new duct material, and up to 25 percent may consist of reused parts from the dwelling unit's existing duct system (e.g., registers, grilles, boots, air handler, coil, plenums, duct material) if the reused parts are accessible and can be sealed to prevent leakage

01	02	03	04	05	06	07	08	09	10	10b	11	12
SC System ID/Name	SC System Description of Area Served	Heating System Type	Altered Heating Component	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Components	Cooling Efficiency Type	Cooling Minimum Efficiency Value SEER/SEER2	Cooling Minimum Efficiency Value EER/EER2/ CEER	Required Thermostat Type	New Duct R-Value

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/AEA/ECC Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and shall be made available to the enforcement agency for all applicable inspections. I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. I will take the necessary steps to accomplish these requirements.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed:
Address:	License:
City/State/Zip:	Phone:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300

LMCC-MCH-02-E User Instructions

Minimum requirements for prescriptive HVAC alteration compliance can be found in Building Energy Efficiency Standards Section 150.2(b)1C.

Completing these forms will require that you have the 2025 Reference Appendices for the 2025 Building Energy Efficiency Standards.

When the term LMCC is used, it is referencing the LMCC-MCH-02. Worksheets are identified by their entire name, and subsequently by only the worksheet number, such as LMCC-ENV-02.

Instructions for sections with column numbers and row numbers are given separately.

If any part of the alteration does not comply with the prescriptive requirements, prescriptive compliance fails and the performance compliance approach must be used.

A. General Information

1. Date Prepared: Enter the date of document preparation.
2. Building Type: Defaults to Multifamily
3. Dwelling Unit Name/Type: Enter a unique dwelling unit name or any other identifying name that would readily distinguish this dwelling unit from others in this project.
4. Dwelling Unit Count: Enter the number of dwelling units.
5. Climate Zone: Select the correct climate zone for the project. From the Reference Appendices, Joint Appendix, JA2.1.1.
6. Dwelling Unit Total Conditioned Floor Area (ft^2): For one-dwelling projects, this field will equal the conditioned floor area (CFA) on that document. For multi-dwelling projects, this field will sum with other dwelling units to equal the total CFA on that document. If multiple systems are being affected, a CFA value will be assigned to each system in Section B. Those must sum to this total for the project. For projects NOT involving all systems in the dwelling, this is the CFA of only the portion of the dwelling unit affected.
7. Number of Space Conditioning (SC) Systems in this Dwelling Unit: Enter the number of space conditioning systems in the dwelling unit.

B. Space Conditioning (SC) System Information (Section 150.2(b)1C)

1. SC System Identification or Name: Enter a unique identifier for this system that will readily distinguish it from other systems in the dwelling unit, such as "HVAC1," "upstairs system," etc. It is recommended to mark the system with this identifier using a permanent marker for ease of identification in the field. For single-system dwelling units, enter a simple name such as "HVAC."
2. SC System Description of Area Served: Enter a unique description of the portion of dwelling unit served by this system, such as "entire second floor," "bedroom wing," etc. For single-system dwelling units, enter a simple description such as "entire house."
3. CFA served by this SC System (ft^2): Enter the CFA served by this system.
4. Is the altered or installed system a ducted system? Select "**YES"** if the system has a central air handler (package or split) that is connected to one or more supply air outlets via ducting of any shape or material. Select "**NO**" for nonducted systems such as ductless mini-splits, through-the-wall systems, package terminal air conditioners, etc.
5. Altering or installing a refrigerant containing component? Select "**YES**" if the project includes installing or replacing a component that contains refrigerant; otherwise select "**NO**." Refrigerant containing components include compressors, condensing coils, evaporator coils, refrigerant metering devices or refrigerating lines.
6. Installing new components? Select "**YES"** if new HVAC components such as a packaged unit, condensing unit, cooling/heating coil, or air-handling unit (e.g., furnace), etc. are being installed in the system; otherwise select "**NO**."
7. Installing more than 25 linear feet of new or replacement ducts? Select "**YES**" if the project involves installing more than 25 linear feet of new or replacement ducts; otherwise select "**NO**."
8. Is the entire duct system accessible for sealing and is more than 75 percent of the duct system new or replaced? Select "**YES**" when, upon completion of the project, more than 75 percent of the ducts will be new ducts and/or replaced ducts, AND if at any time during the project all of the ducts are accessible for duct sealing; otherwise select "**NO**." "Accessible" is defined in the Reference Appendices, Joint Appendix, JA1.
9. Are all of the system's components and ducts new (entirely new system) or replaced? Select "**YES**" if the duct system meets the definition of an "Entirely New or Replacement Duct System" and all of the heating and cooling components (furnace, condenser, coil, etc.) are all new or replaced; otherwise select "**NO**."
10. Alteration Type: This field is calculated automatically based on the information entered in previous fields. Alteration types are defined in the Reference Appendices, Joint Appendix, JA1. The alteration type will determine which of the following sections are required by this document.

C. Extension of Existing Duct System, Greater Than 25 Feet (Section 150.2(b)1Diib)

1. System Identification or Name: This field is automatically filled from entries in Section B.
2. SC System Location or Description of Area Served. This field is automatically filled from entries in Section B.
3. Required New Duct R-value: This field is automatically calculated based on the climate zone selected in Section A. It represents the minimum R-value required. The installed R-value shown on the installation certificate (LMCC) must meet or exceed this value.

D. Altered Space Conditioning System (Sections 150.2(b)1E and F)

1. System Identification or Name: This field is automatically filled from entries in Section B.
2. SC System Location or Description of Area Served. This field is automatically filled from entries in Section B.
3. Heating System Type: Select the most appropriate heating system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
4. Altered Heating Component: Select the most appropriate heating system components from the list that are being added or replaced as part of this project. You can select multiple choices if needed. If the type of component being altered does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
5. Heating Efficiency Type: Select the heating efficiency type from the list that is appropriate to the type of system being altered or installed.
6. Heating Minimum Efficiency Value: This field is filled automatically based on selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum efficiency value.
7. Cooling System Type: Select the most appropriate cooling system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
8. Altered Cooling Components: User chooses as many as are applicable: Select the most appropriate cooling system components from the list that are being added or replaced as part of this project. You can select multiple choices if needed. If the type of component being altered does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
9. Cooling Efficiency Type: Select the cooling efficiency type from the list that is appropriate to the type of system being altered or installed.
10. Cooling Minimum Efficiency Value SEER2: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

10b. Cooling Minimum Efficiency Value EER2/CEER: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

11. Required Thermostat Type: This field is filled automatically based on selections in previous fields. If “setback” appears here, a setback thermostat meeting the minimum requirements of Section 150.0(i) is required to be installed as part of this project.
12. New or Replaced Duct Length: Select the descriptor that describes the amount of duct, at the completion of the project that is added or replaced as part of this project.
13. New Duct R-value: This field is filled automatically based on the entries in previous fields and the climate zone of the project.

E. Entirely New or Complete Replacement Duct System, with or without Equipment Changeout (Sections 150.2(b)1Diia and 150.2(b)1E, F)

1. System Identification or Name: This field is automatically filled from entries in Section B.
2. SC System Location or Description of Area Served. This field is automatically filled from entries in Section B.
3. Heating System Type: Select the most appropriate heating system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
4. Altered Heating Component: Select the most appropriate heating system components from the list that are being added or replaced as part of this project. You can select multiple choices, if needed. If the type of component being altered does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300
5. Heating Efficiency Type: Select the heating efficiency type from the list that is appropriate to the type of system being altered or installed.
6. Heating Minimum Efficiency Value: This field is filled automatically based on selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCC). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.
7. Cooling System Type: Select the most appropriate cooling system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
8. Altered Cooling Components: User chooses as many as that are applicable: Select the most appropriate cooling system components from the list that are being added or replaced as part of this project. You can select multiple choices, if needed. If the type of component being altered does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300
9. Cooling Efficiency Type: Select the cooling efficiency type from the list that is appropriate to the type of system being altered or installed.
10. Cooling Minimum Efficiency Value SEER2: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

10b. Cooling Minimum Efficiency Value EER2/CEER: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

11. Required Thermostat Type: This field is filled automatically based on selections in previous fields. If “setback” appears here, a setback thermostat meeting the minimum requirements is required to be installed as part of this project.
12. New Duct R-value: This field is filled automatically based on the entries in previous fields and the climate zone of the project.

F. Entirely New or Complete Replacement Space Conditioning System (Section 150.2(b)1C)

1. System Identification or Name: This field is automatically filled from entries in Section B.
2. SC System Location or Description of Area Served. This field is automatically filled from entries in Section B
3. Heating System Type: Select the most appropriate heating system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
4. Altered Heating Component: This field is automatically filled.
5. Heating Efficiency Type: Select the heating efficiency type from the list that is appropriate to the type of system being altered or installed.
6. Heating Minimum Efficiency Value: This field is filled automatically based on selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCC). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.
7. Cooling System Type: Select the most appropriate cooling system type from the list. If the type of system to be installed does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
8. Altered Cooling Components (user chooses as many as that are applicable): Select the most appropriate cooling system components from the list that are being added or replaced as part of this project. You can select multiple choices, if needed. If the type of component being altered does not appear on the list, please contact the California Energy Commission Hotline at 800-772-3300.
9. Cooling Efficiency Type: Select the cooling efficiency type from the list that is appropriate to the type of system being altered or installed.
10. Cooling Minimum Efficiency Value SEER2: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

10b. Cooling Minimum Efficiency Value EER2/CEER: This field is filled automatically based on LMCC-MCH-02 selections in previous fields. This field represents the minimum efficiency to be installed. The actual installed efficiency may be higher and will be recorded on the Installation Certificate (LMCI). Optional: the user may enter a higher-than-default value for situations where local codes or programs require a higher minimum.

11. Required Thermostat Type: This field is filled automatically based on selections in previous fields. If “setback” appears here, a setback thermostat meeting the minimum requirements is required to be installed as part of this project.
12. New Duct R-value: This field is filled automatically based on the entries in previous fields and the climate zone of the project.

Documentation Declaration Statements

1. The person who prepared the LMCC will sign and complete the fields for their name, company (if applicable), address, phone number, certification information (if applicable), date and signature.
2. The person who is assuming responsibility for the project being built to comply with Title 24, Part 6, will complete the fields for their name, company (if applicable), address, phone number, license number (if applicable), date and signature.