NONRESIDENTIAL BUILDING COMMISSIONING

CALIFORNIA ENERGY COMMISSION

CEC-LMCC-CXR-01-E

FOR PROJECTS THAT DO NOT REQUIRE FIELD VERIFICATION AND DIAGNOSTIC TESTING

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with mandatory commissioning requirements in §120.8 for nonresidential buildings and hotel/motel or mixed-use buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.

Project Details

Field Name	Data Entry	Field Name	Data Entry
Project Name:		Enforcement Agency:	
Dwelling Address:		Permit Number:	
City and Zip Code:		Date Permit Issued:	

A. GENERAL INFORMATION

Field	Field Name	Data Entry
01	Project Location (city)	
02	Occupancy Type	☐ Nonresidential ☐ Multifamily Residential (Residential occupancy only) ☐ Hotel/ Motel (with Nonresidential occupancy) ☐ Mixed-Use ☐ Healthcare Facility ☐ All other occupancy types
03	Project Type	☐ Newly constructed ☐ Major renovation ☐ Core & shell only ☐ Tenant fit out only ☐ Addition or Alteration
04	Building Size (ft^2)	
05	Nonresidential Conditioned Floor Area (ft^2)	☐ < 10,000 ft^2 ☐ 10,000 - 49,999 ft^2 ☐ 50,000 ft^2 or greater
06	HVAC System Type	☐ Unitary or packaged equipment each serving one zone ☐ Two-pipe, heating only systems

Field	Field Name	Data Entry
		☐ All other HVAC system types (indicates "complex")
07	Climate Zone	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16

STOP! Occupancy types that are not nonresidential, hotel/motel with nonresidential occupancies, or mixed-use, and project types which are additions or alterations, are not required to comply with commissioning requirements in §120.8 and do not need to complete this compliance document.

STOP! Healthcare facilities are not required to comply with the Commissioning requirements in Part 6, but must comply with the applicable requirements in Chapter 7 of Title 24, Part 1 (OSHPD).

B. PROJECT SCOPE

Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per §120.8. Table B is not editable by the user.

Commissioning Requirements per §120.8

Field	Field Name	Field Code	Field Description
01	Table F: Design Review Kickoff (Required for all projects)	§120.8(d)1 and §120.8(d)2	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR) (NOT required for projects <10,000 ft^2 as indicated in Table A, field 05)	§120.8(b)	The owner's project requirements establish the owner's goals, requirements, and expectations for everything related to energy consumption and operation. This should be completed during schematic design.
03	Table H: Basis of Design (BOD) (NOT required for projects <10,000 ft2 as indicated in Table A, field 05)	§120.8(c)	The basis of design documents the design elements such as calculations and product selections that meet the owner's project requirements and applicable regulatory requirements. This should be completed during schematic design.
04	Table I: Design Review (Required for all projects)	§120.8(d) and §120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with ≥ 10,000 ft^2 of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan (NOT required for projects <10,000 ft2 as indicated in Table A, field 05)	§120.8(f)	The commissioning plan is developed by the commissioning provider with input from the designer and defines the scope of commissioning the project. This should be drafted during design and completed during early construction.
06	Table K: Functional Performance Testing	§120.8(g)	Functional performance testing is conducted on building systems to demonstrate correct installation and operation.

Field	Field Name	Field Code	Field Description
	(NOT required for projects <10,000 ft2 as indicated in Table A, field 05)		
07	Table L: Documentation and Training (NOT required for projects <10,000 ft2 as indicated in Table A, field 05)	§120.8(h)	Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner or representative and facilities operator.
08	Table M: Commissioning Report (NOT required for projects <10,000 ft2 as indicated in Table A, field 05)	§120.8(i)	A complete report of commissioning process activities undertaken through the design, construction, and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or representative.

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per §120.8. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Field	Field Name	Data Entry
01	Design Review Kickoff (Table F)	☐ Yes ☐ No
02	Owners Project Requirements (Table G)	☐ Yes ☐ No
03	Basis of Design (Table H)	☐ Yes ☐ No
04	Design Review (Table I)	☐ Yes ☐ No
05	Commissioning Plan (Table J)	☐ Yes ☐ No
06	Functional Performance Testing (Table K)	☐ Yes ☐ No
07	Documentation and Training (Table L)	☐ Yes ☐ No
08	Commissioning Report (Table M)	☐ Yes ☐ No
09	Compliance Results	☐ Complies ☐ Does Not Comply
10	Design Reviewer(s) for the project include (enter names here):	☐ Complies ☐ Does Not Comply

D. EXCEPTIONAL CONDITIONS

Data Entry

Notes:

1. If "Core & Shell only" or "Tenant Fit Out only" have been selected on **Table A** Field 03, enter this note: "Either Core and Shell or Tenant fit out has been indicated in **Table A**. Please note commissioning may be completed for the entire building prior to tenant improvements, or for each individual tenant improvement. The local enforcement agency may have commissioning policies for multi-tenant buildings."
2. If "Yes" is selected in **Table G**. indicating that the OPR is attached, enter this note: “Table G. indicates that the Owner’s Project Requirements (OPR) document is attached to the permit application.”
3. If “Yes” is selected in **Table H**. indicating that the BOD is attached, enter this note: "Table H. indicates that the Basis of Design (BOD) document is attached to the permit application."
4. If "Yes" is selected in **Table I**. indicating that the Design Review is attached, enter this note: "Table I. indicates that a Design Review document is attached to the permit application."
5. If "Yes" is selected in **Table J**. indicating that the CX Plan is attached, enter this note: "Table J. indicates that a draft commissioning plan is attached to the permit application."

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Data Entry

F. DESIGN REVIEW KICKOFF MEETING

This table indicates that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and demonstrates compliance with design review kickoff requirements per §120.8(d)2. This meeting should occur during the Schematic Design phase of the project.

Table F-1. Design Review Kickoff Meeting Details

Field	Field Name	Data Entry
01	Date of Design Review Kickoff Meeting	
02	Meeting Attendees: (one person may play multiple roles)	☐ Owner/ Facility Manager: ☐ Project Manager: ☐ Contractor: ☐ Commissioning Provider: ☐ Design Reviewer(s): ☐ Design Architect/ Engineer(s): ☐ Certified Acceptance Test Tech(s): ☐ Energy/ T24 Part 6 Consultant:

Table F-2. Design Reviewer Qualifications per Title 24, Part 1 Section 10-103(a)1

The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code.

Field	Field Name	Do the Design Reviewer(s) meet these qualifications?
03	In addition, for buildings with < 10,000 ft2, the design reviewer(s) may be the engineer or architect of record. The design reviewer(s) may also be a qualified in-house engineer or architect with no other project involvement or a third-party engineer, architect or contractor.	☐ Yes ☐ No
03	In addition, for buildings with ≥ 10,000 ft2 but < 50,000 ft2, the design reviewer(s) shall be a qualified in-house engineer or architect with no other project involvement or a third-party engineer, architect, or contractor.	☐ Yes ☐ No
03	In addition, for buildings with ≥ 50,000 ft2, or complex mechanical systems, the design reviewer(s) shall be a third-party design engineer, architect, or contractor.	☐ Yes ☐ No
04	The design reviewer(s) for this project will be:	

Note:

If 'In addition, for buildings with >= 50,000 or complex…" is checked: Complex Mechanical Systems are systems that include 1) fan systems each serving multiple thermostatically controlled zones, or 2) built-up air handler systems (non-unitary or nonpackaged HVAC equipment), or 3) hydronic or steam heating systems, or 4) hydronic cooling systems.

Table F-3. Preliminary Construction Schedule

Field	Field Name	Start Date	Completion Date
05	Schematic Design		
06	Design Development		
07	Construction Documents		
08	Construction		
09	Building Turnover		

Note:

If buildings > 10,000 sf as indicated in Table A05 then proceed to Table G. to complete an Owners Project Requirements (OPR) Document per §120.8(b).

Table F-4. Project Goals Related to Energy Efficiency

Field	Field Name	Data Entry
10	Operational Costs	
11	Desired Building Lifespan	
12	Equipment Lifecycle	
13	Project Energy Efficiency Goals	

Field	Field Name	Data Entry
14	Envelope Goals	
15	HVAC System Goals	
16	Indoor Lighting System Goals	
17	Outdoor Lighting System Goals	

Field	Field Name	Data Entry
18	Water Heating System Goals	
19	Equipment and System Specifications	
20	Operations and Maintenance	

Note:

Field 10: Describe the broad goals relative to operational costs.

Field 11: Describe the desired building lifespan.

Field 12: Describe the broad goals relative to the lifecycle of building systems equipment.

Field 13: Describe the project energy efficiency goals, such as Energy Use Intensity (EUI) in kBtu/ft2.

Field 14: Describe any efficiency goals related to the building's roof, walls, windows or floors.

Field 15: Describe heating and cooling requirements and any special considerations. Describe the anticipated occupancy schedule and if users will have the ability to override the HVAC setpoints during unoccupied periods. Describe desired occupant control capabilities. Describe any other special considerations that should be reviewed during the commissioning design review.

Field 16: Describe any efficiency goals related to the building's indoor lighting systems.

Field 17: Describe any efficiency goals related to the building's outdoor lighting systems.
Field 18: Describe any efficiency goals related to the building's water heating system.
Field 19: Describe the desired equipment type, quality and reliability requirements, preferred manufacturers, and energy efficiency targets.
Field 20: Describe the desired level of training and orientation for building occupants to understand use building systems, and the level of training and orientation of operations and maintenance staff to understand and maintain the building systems.

G. OWNER'S PROJECT REQUIREMENTS (OPR)

This table is only completed if an OPR document is not attached to the permit application to demonstrate compliance with §120.8(b). If a specific field is not applicable to the project scope, "NA" is indicated in the table. Per §120.8(b), the OPR is to be completed before design begins. This may be done at the Design Review Kickoff Meeting (see Table F).

Table G-1.

Field	Field Name	Data Entry
01	Attaching Completed Owner's Project Requirements Document?	☐ Yes ☐ No
02	Owners Project Requirements Document Authors and Roles	

Table G-2. Energy Efficiency Goals: General

Field	Field Name	Data Entry
03	What is the target total energy usage per square foot per year? (ie, Energy Use Intensity (EUI) in kBtu/ft^2)	
04	What is the target total energy cost per square foot per year?	
05	Is kW demand control specifically an interest of the client or the design team? If so, for what reason?	
06	What are the project goals and requirements for building siting that will impact energy use?	
07	What are the project goals and requirements for landscape that will impact energy use?	
08	Additional notes regarding general efficiency.	

Table G-3. Energy Efficiency Goals: Envelope

Field	Field Name	Data Entry
09	What are the project goals and requirements for building fenestration that will impact energy use?	
10	What are the project goals and requirements for walls/floors that will impact energy use?	
11	What are the project goals and requirements for building roof that will impact energy use?	
12	Additional notes regarding envelope efficiency.	

Table G-4. Energy Efficiency Goals: HVAC Systems

Field	Field Name	Data Entry
13	List the HVAC system types considered desirable, and ones that are not to be considered.	
14	What is the desired thermostatic setpoint range in the heating season, and cooling season?	
15	What is the expected occupancy schedule? Will the occupants be allowed to override the mechanical system controls during “unoccupied hours?”	
16	Are there times during the day that the zone temperature is allowed to drift out of the temperature setpoint range? If so, how long and what times are acceptable.	
17	Is it acceptable to let the facility cool down to a night setback temperature in the winter?	
18	Is it acceptable to let the facility temperature drift above setpoint during the summer evenings?	
19	How many days out of the year is it acceptable to not meet the entire cooling/heating load?	
20	Are there zones with special temperature, humidity, air filtering, etc., requirements? If so, identify and list the special environmental control requirements.	
21	What expectations are there around building ventilation?	
22	Is occupancy-based demand control ventilation (DCV) desired, or required?	

Field	Field Name	Data Entry
23	Is a building automation system (BAS) desired? If so, what are the requirements of the BAS and what value is expected to be added with the BAS?	
24	Will zone setpoints be controlled locally by the user, or via the BAS only by the maintenance staff?	
25	Explain the requirements of the HVAC system in regards to temperature, humidity and draft control.	
26	Explain the requirements of the facility with regards to indoor air quality.	
27	What are the acoustic requirements of the HVAC system within the various spaces of the facility?	
28	Describe the maintenance plan and how the HVAC design needs to address operation and maintenance issues.	
29	Additional notes regarding HVAC system efficiency.	

Table G-5. Energy Efficiency Goals: Indoor Lighting Systems

Field	Field Name	Data Entry
30	Describe specific lighting requirements including quality and glare.	
31	List the desired types of lighting (if any) and ones that are not to be considered. (example: fluorescent in 2x2 grid, accent lighting, particular lamps)	
32	Describe (if any) task lighting requirements.	
33	Describe any desired features of the lighting control system including occupancy, daylighting, and demand response if applicable.	
34	What is the expected occupancy schedule? Will the occupants be allowed to override the lighting system controls during “unoccupied hours”?	
35	Does occupancy-based control need to be coordinated with mechanical demand control ventilation?	
36	Describe how occupants will interact with the lighting control system (overrides etc.)	
37	Additional notes regarding Indoor Lighting system efficiency.	

Table G-6. Energy Efficiency Goals: Outdoor Lighting Systems

Field	Field Name	Data Entry
38	Describe specific outdoor lighting requirements.	
39	List the desired types of outdoor lighting, including lighting for building façade, landscape, walkways, roof-top, etc. if applicable.	
40	Describe any features of the outdoor lighting control system, including motion sensors, photocontrol, time-switch and automatic scheduling.	
41	Describe how occupants will interact with the lighting control system (overrides etc.)	
42	Additional notes regarding Outdoor lighting system efficiency.	

Table G-7. Energy Efficiency Goals: Water Heating Systems

Field	Field Name	Data Entry
43	Describe what the water heating system will be used for and expected demand?	
44	Describe the desired type (if any) of water heating system and those that should not be considered. (example: instantaneous, heatpump, manufacturer, etc.)	
45	What are the desired automation features and controls for the water heating system.	
46	What are the efficiency requirements of the water heating system?	
47	Additional notes regarding Water Heating system efficiency.	

Table G-8. Operation and Maintenance Requirements

Field	Field Name	Data Entry
48	Desired building lifespan	
49	What are the broad goals relative to life cycle of the equipment?	
50	What is the desired level of training and orientation for building occupants to understand and use the building systems?	
51	What is the desired level of training and orientation for O&M staff to understand and maintain the building systems?	

H. BASIS OF DESIGN (BOD)

This table is only completed if a BOD document is not attached to the permit application to demonstrate compliance with §120.8(c). If a specific field is not applicable to the project scope, "NA" is indicated in the table. Per §120.8(c), the BOD should be completed and updated during the design phase.

Table H-1.

Field	Field Name	Data Entry
01	Attaching Completed Basis of Design Document?	☒ Yes ☐ No
02	Basis of Design Document Authors and Roles	

Table H-2. Title 24 Part 6 Compliance Approach

Field	Field Name	Data Entry
03	Title 24, Part 6 Compliance Approach (select one):	☐ Prescriptive ☐ Performance ☐ Both (Prescriptive and Performance)
04	If both, describe prescriptive scopes and performance scopes:	

Note:
Field 04 - Insert a description of which scopes are using prescriptive vs. which are using performance.

Table H-3. General Energy Efficiency Goals

Field	Field Name	Data Entry
05	Energy Use Intensity (EUI)	
06	Energy Cost Budget	

Note:
Field 05 - Insert a description of how the design's energy use intensity (EUI) will be calculated.
Field 06 - Insert a description of how the design's energy cost per square foot will be calculated.

Table H-4. Envelope Basis of Design

Field	Field Name	Data Entry
07	Window to Wall Ratio	
08	Opaque Wall Assembly	
09	Window Performance	
10	Response to OPR Document	

Note:

Field 07 - Insert a description of the target design window to wall ratio.
Field 08 - Insert a description of the wall assemblies and energy efficiency features/strategies.
Field 09 - Insert a description of the target design window performance including U Values, Glazing, and Solar Heat Gain Coefficient for all window types.
Field 10 - Provide reasons why the envelope design is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)

Table H-5. HVAC System Basis of Design

Field	Field Name	Data Entry
11	HVAC System Design	
12	Heating System Description	
13	Cooling System Description	
14	Ventilation System Description	
15	Control Intent Narrative/ Sequence of Operations	

Field	Field Name	Data Entry
16	Outside Air Supply	
17	Load Calculations	

Note:

Field 11 - Insert general HVAC system description.

Field 12 - Insert system type(s), location, control type, efficiency features, outdoor air ventilation strategy, indoor air quality features, noise reduction features, environmental benefits, other special features.

Field 13 - Insert system type(s), location, control type, efficiency features, outdoor air ventilation strategy, indoor air quality features, noise reduction features, environmental benefits, other special features.

Field 14 - Insert system type(s), location, control type, efficiency features, ventilation strategies, indoor air quality features, noise reduction features, environmental benefits, other special features.

Field 15 - Provide operating schedules, set points, etc. if known at time of design. May refer to plans and/or specifications if sequence of operations is included there. If these specifics aren't available, provide a control intent narrative that outlines the intent of the control system.

Field 16 - Provide narrative of how all spaces and zones meet the outside air ventilation requirements in the OPR Document.

Field 17 - Describe the load calculation methodology used to meet requirements in the OPR document.

Table H-6. Indoor Design Conditions

Field	Field Name	Occupied Spaces	Unoccupied Spaces	Unoccupied Spaces
18	Occupied Periods	Temp (°F)	Temp (°F)	Relative Humidity (%)
18	Heating			
18	Cooling			
18	Unoccupied Periods	Temp (°F)	Temp (°F)	Relative Humidity (%)
18	Heating			
18	Cooling			

Table H-7. Response to OPR Document

Field	Data Entry
19	

Table H-8. Indoor Lighting System Basis of Design

Field	Field Name	Data Entry
20	Indoor Lighting System Narrative	
21	Fixture Types	
22	Lamp and Ballast Types	
23	Control Types	
24	Control Intent Narrative/ Sequence of Operations	
25	Response to OPR Document	

Note:

Field 20 - Generally describe the indoor lighting system which will be commissioned.
Field 21 - Insert specific fixture types.
Field 22 - Insert specific lamp and ballast types.
Field 23 - Describe control types and areas to be controlled.

Field 24 - Provide operating schedules, set points, etc. if known at time of design. May refer to plans and/or specifications if sequence of operations is included there. If these specifics aren't available, provide a control intent narrative that outlines the intent of the control system.

Field 25 - Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G).

Table H-9. Outdoor Lighting System Basis of Design

Field	Field Name	Data Entry
26	Outdoor Lighting System Narrative	
27	Fixture Types	
28	Lamp and Ballast Types	
29	Control Types	
30	Control Intent Narrative/ Sequence of Operations	
31	Response to OPR Document	

Note:

Field 26 - Generally describe the outdoor lighting system which will be commissioned.

Field 27 - Insert specific fixture types.

Field 28 - Insert specific lamp and ballast types.

Field 29 - Describe control types and areas to be controlled.

Field 30 - Provide operating schedules, set points, etc. if known at time of design. May refer to plans and/or specifications if sequence of operations is included there. If these specifics aren't available, provide a control intent narrative that outlines the intent of the control system.

Field 31 - Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G).

Table H-10. Water Heating System Basis of Design

Field	Field Name	Data Entry
32	Water Heating System Narrative	
33	Water Heating Load Calculations	
34	Response to OPR Document	

Note:

Field 32 - Generally describe the water heating system which will be commissioned.

Field 33 - Describe sizing calculation method, assumptions, and results.

Field 34 - Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G).

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST

This table is only completed if a design review document is not attached to the permit application to demonstrate compliance with §120.8(d) and §120.8(e). For buildings with > 10,000 ft2 conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000ft2 conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

Table I-1.

Field	Field Name	Data Entry
01	Attaching Completed Design Review Documentation?	☐ Yes ☐ No

Table I-2. Design Review Checklist

Field	Field Name	Data Entry
02	Envelope Design	
03	HVAC System Design	
04	HVAC Controls Design	
05	Indoor Lighting System Design	
06	Indoor Lighting Controls Design	
07	Outdoor Lighting System and Controls Design	

08	Water Heating System Design	
09	Other Systems and Features	

Note:

Field 02 - Describe how the envelope design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 03 - Describe how the HVAC system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 04 - Describe how the HVAC controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 05 - Describe how the indoor lighting system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 06 - Describe how the indoor lighting controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 07 - Describe how the outdoor lighting controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 08 - Describe how the water heating system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

Field 09 - Describe how any other systems or features reflected in the contract documents meets owner requirements documented in the OPR/ BOD or Table F. Describe any issues that were identified and the resolution.

J. COMMISSIONING PLAN

This table is only completed if a Commissioning Plan document is not attached to the permit application to demonstrate compliance with §120.8(f). Per §120.8(f), the Commissioning Plan is to be started during the design phase and a completed draft must be submitted with permit application.

Table J-1.

Field	Field Name	Data Entry
01	Attaching Completed Commissioning Plan?	☐ Yes☐ No
02	Commissioning Plan Authors and Roles	

Note:

Only complete Tables J-2 through J-4 if Field 01 above has "No" selected.

Table J-2. Commissioning Provider Information

Field	Field Name	Data Entry
03	Company Name	
04	Contact Person	
05	Contact Email	
06	Contact Phone	

Table J-3. Commissioning Process Overview

Field	Field Name	Data Entry
07	Owner Goals	
08	Roles and Responsibilities	
09	Schedule	

Note:

Field 07 - Describe the goals for the commissioning process including but not limited to meeting code requirements, meeting OPR and BOD requirements.

Field 08 - Describe the roles and responsibilities of the commissioning provider, owner/owners representative, design team, construction manager, certified Acceptance Test Technician, mechanical, electrical, and controls contractors, testing and balancing contractor, equipment suppliers, and building inspector.

Field 09 - Describe how the commissioning and acceptance testing process will fit into the construction schedule.

Table J-4. Commissioning Activities During Construction

Field	Field Name	Data Entry
10	Construction Observation	
11	Issues Logs	
12	Installation Verification	
13	Functional Performance Testing	
14	Documentation and Training	

Note:

Field 10 – Describe when jobsite observations will be conducted and the intent of these observations.

Field 11 – Describe how issues logs will be used and the project team members these will be submitted to for recertification.

Field 12 – Describe the installation verification processes and responsible parties.

Field 13 – Describe how the Commissioning Provider, Acceptance Test Technician and Subcontractor will interact during tests listed in Table K. Functional Performance Testing.

Field 14 – Describe the review of the operation manuals and how the commissioning provider will facilitate the training of owner and applicable maintenance staff on the building systems.

K. FUNCTIONAL PERFORMANCE TESTING

The table below is completed to demonstrate compliance with functional performance testing requirements per §120.8(g).

Table K-1.

Field	Field Name	Data Entry
01	By checking this box, the responsible party[1] certifies that functional performance testing will be executed to demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the acceptance test requirements in §120.5, §130.4 and §140.9. The functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.	☐

Table K-2.

The following acceptance tests have been identified as applicable to the project scope:[2]

02	03	04	05
System/ Equipment to be Tested	Brief description of functional performance test	Applicable Reference Appendix	Certified Acceptance Test Technician Required?
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No

Note:

Field 04 (Applicable Reference Appendix) options should be chosen from the lookup table below.
Field 05 should be chosen as applicable to the value chosen for 04 – also shown in the table below.

Table K-2-Lookup

04 Applicable Reference Appendix Dropdown	05 ATT Required
NA7.4.1- Fenestration	No
NA7.4.2- Window Films	No
NA7.4.3- Dynamic Glazing	No
NA7.4.4 Clerestories for PAF	No
NA7.4.5 Int/Ext Horizontal Slats	No
NA7.4.6 Int/Ext Light Shelves for PAF	No
NA7.5.1- Outdoor Air	Yes
NA7.5.2- CV, Single Zone AC/HP's	Yes
NA7.5.3- Air Distribution	Yes
NA7.5.4- Air Economizer Controls & Exhaust Heat Recovery	Yes
NA7.5.5- DCV Systems	Yes
NA7.5.6- Supply Variable Flow	Yes
NA7.5.7- Valve Leakage	Yes
NA7.5.8- Supply H2O Temp Reset	Yes
NA7.5.9- Hydronic Variable Flow	Yes
NA7.5.10- Demand Shed (HVAC)	Yes
NA7.5.11- FDD for Package DX	Yes
NA7.5.12- FDD for AHU's/ Zone TU's	Yes
NA7.5.13- DES/DXAC	Yes
NA7.5.14- Thermal Energy Storage	Yes
NA7.5.15- SA Temp Reset	Yes
NA7.5.16- Cond. H2O Temp Reset	Yes
NA7.5.17- Occupied Standby	Yes
NA7.6.1- Daylighting Controls	Yes
NA7.6.2- Lighting Shut-Off	Yes
NA7.6.3- Lighting Demand Response	Yes
NA7.6.4- Institutional Tuning for PAF	Yes
NA7.6.5- Demand Response for Controlled Receptacles	Yes
NA7.8.1 Motion Sensor	Yes
NA7.8.2 Photocontrol	Yes
NA7.8.5 Automatic Scheduling	Yes
NA7.10.1- Refrigerated Warehouse Electric Resistance Underslab Heating	No
NA7.10.2- Refrigerated Warehouse Variable Speed Evaporator	No
NA7.10.3- Refrigerated Warehouse Variable Speed Condenser	No
NA7.10.4- Refrigerated Warehouse Variable Speed Screw Compressor	No
NA7.11.1- Type I Hood Kitchen Exhaust	No
NA7.12.1- Parking Garage Ventilation	No

04 Applicable Reference Appendix Dropdown	05 ATT Required
NA7.13.1- Compressed Air Systems	No
NA7.14.1- Elevator Lighting and Ventilation	No
NA7.15.1- Escalator and Moving Walkways	No
NA7.16.1- Lab Exhaust Ventilation Systems	No
NA7.17.1- Fume Hood Automatic Sash Closure	No
NA7.19.1- Steam Trap Fault Detection	No
NA7.20.1- Transcritical CO2 Systems	No

Table K-2. Additional Functional Performance Tests

The acceptance tests required by Title 24, Part 6 outline the minimum functional performance testing scope to be conducted for compliance. However, the commissioning scope may include additional functional performance tests on systems or equipment not having acceptance tests required by Title 24, Part 6.

The following additional functional performance tests have been requested by the owner or owner's representative:

06	07
System/ Equipment to be Tested	Brief description of functional performance test

Notes:

- See the signature block on the last page of this compliance document for the responsible party.
- Required acceptance tests can be determined by reviewing the "Certificates of Acceptance" table on each Certificate of Compliance submitted for permit application.

L. DOCUMENTATION AND TRAINING

The table below is completed to demonstrate compliance with documentation and training requirements per §120.8(h).

Field	Field Name	Data Entry
01	By checking this box, the responsible party[1] certifies that a systems manual will be provided to the building owner or representative per §120.8(h)1.	☐
02	By checking this box, the responsible party[1] certifies that a training of the appropriate maintenance staff for each equipment and system will be completed and documented in the commissioning report per §120.8(h)2. Training requirements should be included in the contract document in the specifications.	☐

[1] FOOTNOTE: See the signature block on the last page of this compliance document for the responsible party.

M. COMMISSIONING REPORT

The table below is completed to demonstrate compliance with commissioning report requirements per §120.8(i).

Field	Field Name	Data Entry
01	By checking this box, the responsible party[1] certifies that a complete report of commissioning process' activities undertaken through the design, construction, and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or owner's representative.	☐

[1] FOOTNOTE: See the signature block on the last page of this compliance document for the responsible party.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no Certificates of Installation applicable to commissioning requirements.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Although there are no "CXR" Certificates of Acceptance required to document commissioning requirements, Certificates of Acceptance may be used to supplement functional performance testing required by §120.8(g).

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

SIGNATORY	Entry
Documentation Author Name	
Documentation Author Signature	
Company	
Date Signed	
CEA/HERS Certification Identification (if applicable)	
Address	
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 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 made available to the enforcement agency for all applicable inspections.
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.

SIGNATORY	Entry
Responsible Designer Name	
Responsible Designer Signature	

SIGNATORY	Entry
Company	
Date Signed	
License	
Address	
City/State/Zip	
Phone	
Date Signed	

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

A. General Information

1. Enter the City the project is located in.
2. Occupancy Type: Select from dropdown.
3. Project Type: Select from dropdown.
4. Enter the Building Size in square feet.
5. Nonresidential Conditioned Floor Area: Select from dropdown.
6. HVAC System Type: Select from dropdown.
7. Climate Zone: Select from dropdown.

B. Project Scope

1. The fields on this table indicate which commissioning related requirements apply per §120.8 and are based on project information provided in Table A. This table is uneditable by the user.

C. Compliance Results

1. Results in this table are automatically calculated from data input and calculations in Tables F through M.

D. Exceptional Conditions

1. This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. Additional Remarks

1. Enter any notes or comments for the AHJ.

F. Design Review Kickoff Meeting

1. Enter the Date of Design Review Kickoff Meeting.
2. Select and enter the applicable Meeting Attendees.
3. Select Yes or No if the Design Reviewer meets the listed qualifications.
4. Enter the name of the Design Reviewer
5. Enter the Start and Completion Date of the Schematic Design.
6. Enter the Start and Completion Date of the Design Development.

7. Enter the Start and Completion Date of the Construction Documents.
8. Enter the Start and Completion Date of the Construction.
9. Enter the Start and Completion Date of the Building Turnover.
10. Describe the broad goals relative to operational costs.
11. Describe the desired building lifespan.
12. Describe the broad goals relative to the lifecycle of building systems equipment.
13. Describe the project energy efficiency goals, such as Energy Use Intensity (EUI) in kBtu/ft2.
14. Describe any efficiency goals related to the building's roof, walls, windows or floors.
15. Describe heating and cooling requirements and any special considerations.
16. Describe any efficiency goals related to the building's indoor lighting systems.
17. Describe any efficiency goals related to the building's outdoor lighting systems.
18. Describe any efficiency goals related to the building's outdoor lighting systems.
19. Describe the desired equipment type, quality and reliability requirements, preferred manufacturers, and energy efficiency targets.
20. Describe the desired level of training and orientation for building occupants and operations and maintenance staff to understand the use building systems.

G. Owner's Project Requirements (OPR)

1. Select Yes or No if the Completed Owner's Project Requirements Document is attached.
2. Enter the Owner's Project Requirements Document Authors and Roles.
3. Enter the energy use intensity target to meet owner's goals in kBtu/ft2
4. Enter the energy cost target to meet owner's goals in $/ ft2/yr
5. Discuss whether kW demand control is desired on the project.
6. Discuss the implications of siting constraints on energy use.
7. Discuss the implications of landscaping design decisions on energy use.
8. Describe any additional discussions or goals around general energy efficiency.
9. Describe the implications of fenestration decisions on energy use and Part 6 compliance.
10. Describe the implications of wall/floor details on energy use and Part 6 compliance.
11. Describe the implications of roof details on energy use and Part 6 compliance.
12. Describe any additional discussions or goals around envelope energy efficiency.

13. Describe any HVAC system constraints or preferences.
14. Discuss and document desired thermostat setpoints.
15. Discuss and document design considerations.
16. Discuss and document design considerations.
17. Discuss and document design considerations.
18. Discuss and document design considerations.
19. Discuss and document load calculation considerations.
20. Discuss and document spaces with special environmental control requirements.
21. Discuss and document design considerations for ventilation.
22. Discuss and document design considerations for DCV.
23. Describe the owner's goals related to having a BAS.
24. Describe how occupants should be interacting with controls to meet owner's requirements.
25. Describe controls design decisions to meet owner's requirements.
26. Describe IAQ design decisions to meet owner's requirements.
27. Discuss and document acoustic requirements applicable to the spaces in the project.
28. Describe operation and maintenance goals & related design decisions.
29. Describe any additional discussions or goals around HVAC energy efficiency.
30. Describe design considerations for the lighting system to meet owner goals.
31. Describe owner preferences related to lighting system components.
32. Describe any design considerations related to task lighting.
33. Describe design considerations for the lighting control system.
34. Discuss and document the desired interaction with overriding indoor lighting control systems.
35. Discuss if occupancy-based controls need to be coordinated with DCV to meet owner's goals.
36. Discuss and document the occupant's desired interaction with indoor lighting control systems.
37. Describe any additional discussions or goals around indoor lighting system energy efficiency.
38. Describe design considerations for the outdoor lighting system to meet owner goals.
39. Describe owner preferences related to outdoor lighting system components.
40. Describe design considerations for the lighting control system.

41. Discuss and document the occupant's desired interaction with outdoor lighting control systems.
42. Describe any additional discussions or goals around outdoor lighting system energy efficiency.
43. Describe owner goals and preferences related to the water heating system.
44. Describe owner preferences related to water heating system components.
45. Describe owner preferences related to water heating system controls.
46. Describe owner requirements related to water heating system efficiency.
47. Describe any additional discussions or goals around water heating system energy efficiency.
48. Describe if there are any owner's goals related to the building lifespan.
49. Describe any owner's goals related to equipment lifespan.
50. Describe any owner's goals related to operation and training for building occupants.
51. Describe any owner's goals related to operation and training for building occupants.

H. Basis of Design (BOD)

1. Select Yes or No if the Completed Basis of Design Document is attached.
2. Enter the Basis of Design Document Authors and Roles.
3. Select the Title 24, Part 6 Compliance Approach.
4. Insert a description of which scopes are using prescriptive vs. which are using performance.
5. Insert a description of how the design's energy use intensity (EUI) will be calculated.
6. Insert a description of how the design's energy cost per square foot will be calculated.
7. Insert a description of the target design window to wall ratio.
8. Insert a description of the wall assemblies and energy efficiency features/strategies.
9. Insert a description of the target design window performance including U Values, Glazing, and Solar Heat Gain Coefficient for all window types.
10. Provide reasons why the envelope design is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)
11. Insert general HVAC system description
12. Insert system type(s), location, control type, efficiency features, outdoor air ventilation strategy, indoor air quality features, noise reduction features, environmental benefits, other special features

13. Insert system type(s), location, control type, efficiency features, outdoor air ventilation strategy, indoor air quality features, noise reduction features, environmental benefits, other special features
14. Insert system type(s), location, control type, efficiency features, ventilation strategies, indoor air quality features, noise reduction features, environmental benefits, other special features
15. Provide operating schedules, set points, etc. if known at time of design.
16. Provide narrative of how all spaces and zones meet the outside air ventilation requirements in the OPR Document
17. Describe the load calculation methodology used to meet requirements in the OPR document
18. Enter the Indoor Design Conditions.
19. Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)
20. Generally describe the indoor lighting system which will be commissioned
21. Insert specific fixture types
22. Insert specific lamp and ballast types
23. Describe control types and areas to be controlled
24. Provide operating schedules, set points, etc. if known at time of design.
25. Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)
26. Generally describe the outdoor lighting system which will be commissioned
27. Insert specific fixture types
28. Insert specific lamp and ballast types
29. Describe control types and areas to be controlled
30. Provide operating schedules, set points, etc. if known at time of design.
31. Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)
32. Generally describe the water heating system which will be commissioned
33. Describe sizing calculation method, assumptions, and results
34. Provide reasons why the selected system is the best choice to meet Owner's Project Requirements outlined in the OPR Document (See Table G.)

I. Construction Document Design Review Checklist

1. Select Yes or No if the Completed Design Review Document is attached.
2. Describe how the envelope design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
3. Describe how the HVAC system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
4. Describe how the HVAC controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
5. Describe how the indoor lighting system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
6. Describe how the indoor lighting controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
7. Describe how the outdoor lighting controls design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
8. Describe how the water heating system design reflected in the contract documents meets each owner requirement documented in the OPR/ BOD or Table F.
9. Describe how any other systems or features reflected in the contract documents meets owner requirements documented in the OPR/ BOD or Table F.

J. Commissioning Plan

1. Select Yes or No if the Completed Commissioning Plan is attached.
2. Enter the Commissioning Plan Authors and Roles.
3. Enter the Company Name.
4. Enter the Contact Person.
5. Enter the Contact Email.
6. Enter the Contact Phone.
7. Describe the goals for the commissioning process including but not limited to meeting code requirements, meeting OPR and BOD requirements.

8. Describe the roles and responsibilities of the commissioning provider, owner/owner's representative, design team, construction manager, certified Acceptance Test Technician, mechanical, electrical, and controls contractors, testing and balancing contractor, equipment suppliers, and building inspector.
9. Describe how the commissioning and acceptance testing process will fit into the construction schedule.
10. Describe when jobsite observations will be conducted and the intent of these observations.
11. Describe how issues logs will be used and the project team members these will be submitted to for recertification.
12. Describe the installation verification processes and responsible parties.
13. Describe how the Commissioning Provider, Acceptance Test Technician and Subcontractor will interact during tests listed in Table K. Functional Performance Testing.
14. Describe the review of the operation manuals and how the commissioning provider will facilitate the training of owner and applicable maintenance staff on the building systems.

K. Functional Performance Testing

1. Check to confirm that the responsible party certifies that functional performance testing will be executed to demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the acceptance test requirements in §120.5, §130.4 and §140.9.
2. Enter the System/Equipment to be Tested.
3. Enter a description of the functional performance test.
4. Applicable Reference Appendix: Select from dropdown.
5. Certified Acceptance Test Technician: Select Yes or No.

6. Enter the System/Equipment to be Tested.
7. Enter a description of the functional performance test.

L. Documentation and Training

1. Check to confirm that the responsible party certifies that a systems manual will be provided to the building owner or representative per §120.8(h)1.
2. Check to confirm that the responsible party certifies that a training of the appropriate maintenance staff for each equipement and system will be completed and documented in the commissioning report per §120.8(h)2.

M. Commissioning Report

1. Check to confirm that the responsible party certifies that a complete report of commissioning process' activities undertaken through the design, construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or owner's representative.

N. Declaration of Required Certificates of Installation

1. Selections have been automatically made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks.

O. Declaration of Required Certificates of Acceptance

1. Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks.