

DOCKETED	
Docket Number:	21-BSTD-01
Project Title:	2022 Energy Code Update Rulemaking
TN #:	238124
Document Title:	May 28, 2021 Staff Presentation at the Lead Commissioner Hearing
Description:	Collected presentations made by staff at the May 28, 2021 Lead Commissioner Hearing on the proposed 2022 Energy Code.
Filer:	Adrian Ownby
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	6/3/2021 1:14:17 PM
Docketed Date:	6/3/2021



2022 Building Energy Efficiency Standards Lead Commissioner Hearing for 45-Day Language

Payam Bozorgchami, P.E.

DATE: May 28, 2021

Start Time: 9:00 AM

Agenda for Today's Hearing

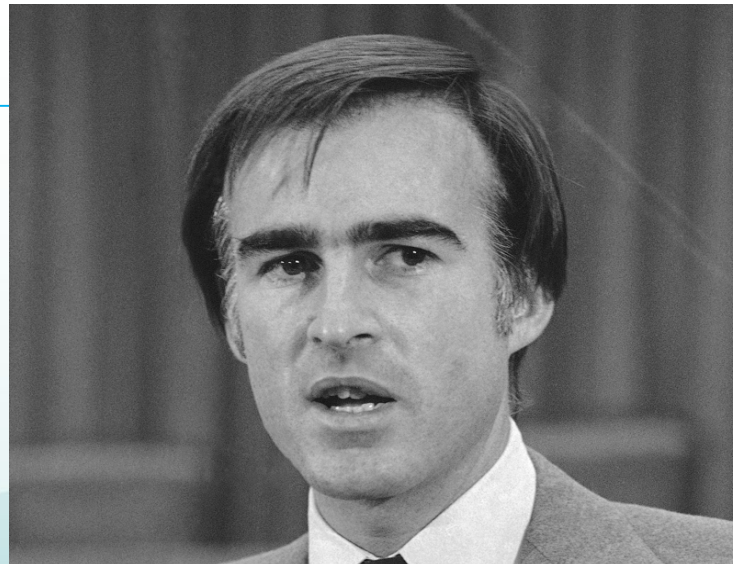
- **How Title 24, Part 6 is Developed**
- **Subchapter 1, All Occupancies – General Provisions**
- **Subchapter 2, All Occupancies – Mandatory Requirements for the Manufacture, Construction and Installations of Systems, Equipment and Building Components**
- **Title 24, Part 1, Administrative Regulations**
(Excluding 10-115)
- **Lunch Break (90 minutes, hard stop at 11:45 AM)**
- **REFERENCE APPENDICES**
 - **Joint Appendix (JA)**
 - **Residential Appendix (RA)**
 - **Nonresidential Appendix (NA)**
- **Alternative Calculation Method (ACM) Approval Manual**



Authority & Process

•**Public Resources Code (PRC 25402):** Reduction of wasteful, uneconomic, inefficient, or unnecessary consumption of energy

- (a)(1) Prescribe, by regulation, lighting, insulation, climate control system, and other building design and construction standards that increase the efficiency in the use of energy and water...
- Warren Alquist Act Signed into law in 1974 by Governor Ronald Reagan and launched by Governor Jerry Brown in 1975 which mandates updates Building Efficiency Standards and requires the building departments to enforce them through the permit process.





Goals of the California Energy Code

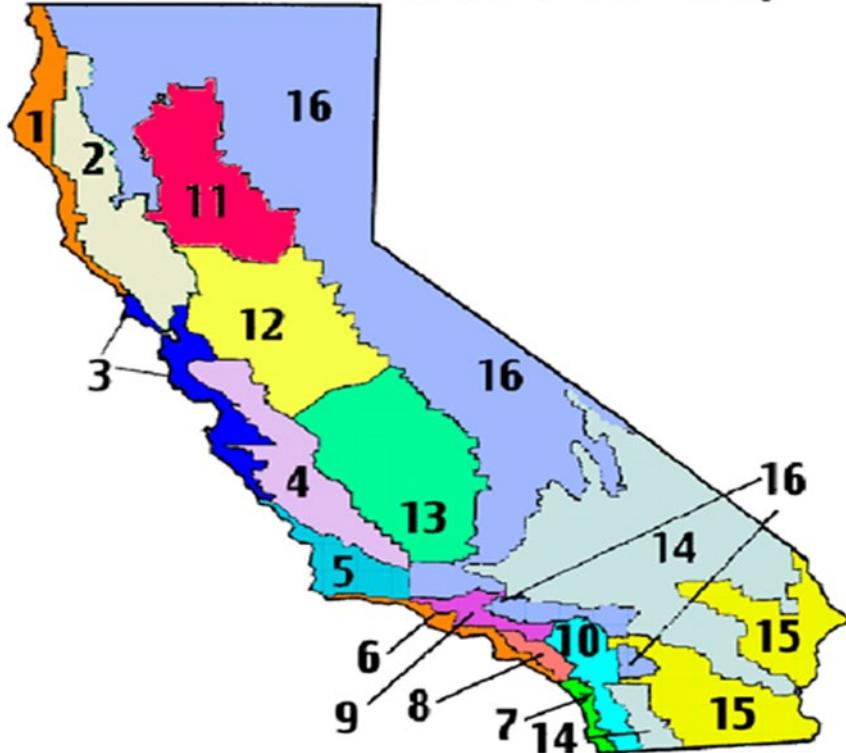
1. Increase building energy efficiency cost-effectively
2. Contribute to the state's GHG reduction goals
3. Enable pathways for all-electric buildings
4. Reduce residential building impacts on the electricity grid
5. Promote demand flexibility and self-utilization of PV generation
6. Provide tools for local government reach codes



California Standards for California Climates

- Focus on CA Climate Diversity
 - Standards set expectations for climate-specific designs
 - CA weather data captures statewide coincident peak demand climate conditions

California Climate Zone Map



Coastal - 1, 3, 5, 6, 7, 8

Inland - 2, 4, 9, 10

Central Valley - 11, 12, 13

Desert - 14, 15

Mountains -16



Process Used to Updated Energy Codes

CEC staff, with input from utility partners and industry stakeholders, develop the triennial standards update

Opportunities for participation

- Utility-Sponsored 25 publicly held Stakeholder Meetings
- CEC-Sponsored 18 Staff Workshops

Standards must be cost-effective

- Life-Cycle Costing Methodology
- Time Dependent Valuation (TDV)



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2022 Standards Process

From Here on to the Effective Date

2022 STANDARDS UPDATE SCHEDULE	
DATE	MILESTONES
November 2018 - November 2019	Updated Weather Files
November 2018-December 2019	Metric Development
November 2018-July 2019	Measures Identified and approval
August 2019 to January 2021	Stakeholder meeting/workshop & final staff workshop
May 2020-October 2020	CASE Reports submitted to the CEC
May 24, 27 and 28 2021	45-day Lead Commissioner Hearings
June 21, 2021	Comments for the 45-Day Language due date
August 11, 2021	Adoption of 2022 Standards at the Business Meeting
July 2021 to November 2021	Staff work on Software, Compliance Manuals, Electronic Documents Available to Industry
January of 2022	Approval of the Manuals (at CEC Business Meeting)
December of 2021	Approval of the Energy Code (at CBSC)
February 2022	Software, Compliance Manuals, Electronic Documents Available to Industry
January 1, 2023	Effective Date



2022 Energy Code Environmental Impact Report

Important Dates	Milestones
May 19	Draft Report posted to docket
May 20 – July 8	Public comment period
Late July	Final Report posted to docket
August	CEC adoption (Tentative)

DOCKET NUMBER: 21-BSTD-02

<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-BSTD-02>



Key Web-Links

45-Day Rulemaking Comments to be Submitted to:

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=21-BSTD-01>

NOTE: For this workshop final deadline for written comments is **June 21, 2021** by 5:00 PM, but sooner the better.

Building Energy Efficiency Program

<http://www.energy.ca.gov/title24/>

Pre-Rulemaking Comments were submitted to:

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=19-BSTD-03>

2022 Title 24 Utility-Sponsored Stakeholder

<http://title24stakeholders.com/>



How to submit Written Comments

- **We strongly encourage submitting written comments via e-file.** Comments on the proposed 2021 Energy Code can be submitted to:

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=21-BSTD-01>

- Comments can also be submitted physically or by e-mail, here:

California Energy Commission

Dockets Office, MS-4

Re: Docket No. 21-BSTD-01

1516 Ninth Street

Sacramento, CA 95814-5512

Docket@energy.ca.gov

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Questions ?



Questions are the path to learning

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SUBCHAPTER 1

ALL OCCUPANCIES—GENERAL PROVISIONS

Presenter: Payam Bozorgchami, PE

DATE: May 28, 2021

Lead Commissioner Hearing for 45-Day Language



Section: 100.0 – Scope

- **Added new building type, Multifamily to the scope of the Energy Codes.**
 - **Current:** Nonresidential, high-rise residential, and hotel/motel buildings
Proposed: Nonresidential and hotel/motel buildings (Sections 140.0 to 141.0)
 - **Current :** Low-rise Residential which includes Multifamily 3 stories or less
Proposed: Single-family Buildings (Sections 150.0 to 150.2)
 - **New:** Multifamily (Sections 160.0 to 180.0)



Section: 100.1 – Definitions and Rules of Construction

Updated and added references to industry standards (ANSI, ASME, AHRI, ASTM, ASHRAE, and others) to reference the latest versions of these documents.

Examples of Added or revised definitions to facilitate proposed updates to Part 6, including:

- New definitions relating to Multifamily, such as: Common Living Areas, Common Service Areas, Common Use Areas
- New definition for Controlled Environment Horticulture (CEH) Space
- New definitions for Fan System types, such as:
 - Transfer fan systems
 - Supply only fan systems
 - Return fan systems



Section: 100.1 – Definitions and Rules of Construction (Continued)

- New definitions for Heat Pump Water Heater and the types of Heat Pump systems like Single-Pass and Multi-Pass systems
- **Updated existing language and added new definitions for:**
 - General Occupancy Control types,
 - Lighting and Lighting systems,
 - Mechanical systems, and
 - Building spaces



Questions?



Subchapter 2

All Occupancies – Mandatory Requirements for the Manufacture, Construction and Installation of Systems, Equipment and Building Components

Staff 45-Day Lead Commissioner Hearing



Presenter: Payam Bozorgchami, PE

Date: May 28th, 2021



Section: 110.2 – Mandatory Requirements for Space-Conditioning Equipment

- Updated a few of the Minimum Efficiency Tables to lineup with ASHRAE 90.1-2019



Section: 110.6 – Mandatory Requirements for Fenestration Products and Exterior Doors

- Removed the exception that exempts up to 200 ft² of vertical site-built fenestration from the Fenestration Certification requirements for U-factor, SHGC, and VT
 - Reason: To increase the rate of compliance with NFRC certification and reduce/eliminate the amount of uncertified fenestration products being installed in CA.



Section: 110.8 – Mandatory Requirements for Insulation, Roofing Products and Radiant Barriers

- Reinstated ASTM D6083 to Section 110.8(i)4B as an option to meet the minimum performance requirements of liquid applied coatings



Section: 110.9 – Mandatory Requirements for Lighting Controls

- Deleted Section 110.9(b)5- Part-Night Outdoor Lighting Controls
 - Part- Night Outdoor Lighting Controls is not required to be installed for complying with the outdoor lighting controls requirements



Section: 110.10 – Mandatory Requirements for Solar Readiness

Section 110.10(a): Covered Occupancies

- Modified scope to provide clarity that buildings that do not have a PV system installed, must meet the Solar Ready Requirements

Section 110.10(b)2: Azimuth Range

- Modified language to provide clarity that PV systems installed on a steep-sloped roofs shall have an azimuth range between 90° and 300° of true north.



Section: 110.12 – Mandatory Requirements for Demand Management

Provided clarity for buildings that install, or are required to install, a demand responsive control

- **Section 110.12(a) Demand Responsive Controls** - modified language for demand responsive controls to communicate with VEN by using either wired or wireless bi-directional communication pathway
- **Section 110.12(c) Demand Responsive Lighting Controls** - provision change from 10,000 square feet to 4,000 Watts.
- **Section 110.12(e) Demand Responsive Controlled Receptacles** - capable of automatically turning off all loads connected to the receptacle in response to demand response signal



Questions?





ARTICLE 1 – ENERGY BUILDING REGULATIONS

Presenter: Haile Bucaneg

DATE: May 28, 2021

Lead Commissioner Hearing for 45-Day Language



Section 10-102 Definitions

Term	Changes
Compliance Data Exchange File (15-Day) (New Term)	Consistent with definition in JA7
Compliance Registration Package (15-Day) (New Term)	Consistent with definition in JA7
Nonresidential Data Registry	Excludes acceptance tests recorded by an ATTCP
Residential Data Registry (15-Day)	Added reference to Title 20, Chapter 4, Article 8, Section 1670 et seq
HERS Provider Data Registry (15-Day)	Added reference to Title 20, Chapter 4, Article 8, Section 1670 et seq
Registered Compliance Document (15-Day)	Consistent with definition in JA7



Section 10-103 Permit, Certificate, Informational and Enforcement Requirements

The following sections were modified for clarity (15-Day):

- Section 10-103(a)1B
- Section 10-103(a)1D
- Section 10-103(a)3C
- Section 10-103(a)3E
- Section 10-103(a)4B
- Section 10-103(a)4C
- Section 10-103(a)5B
- Section 10-103(d)2C

Section 10-103(b)4 Ventilation Information

- Modified for multi-family requirements. Definitions, and clarity



Sections 10-103.1 and 10-103.2 Nonresidential Lighting/Mechanical Test Training and Certification

Adding two new sections to ATTCP requirements:

- **Section 10-103.1/.2 (c)3H** – Electronic Database System
 - Create an acceptance test tracking database system for clarity
 - Submit specific data to the CEC via API for program oversight
- **Section 10-103.1/.2 (c)3I** - Compliance Document Recording and Repository Reporting Requirement
 - Record all relevant compliance documents for program oversight
 - Submit monthly data transfer packets to the CEC Repository (when available) for program oversight



Section 10-109 Data Registries and Related External Digital Sources and PV System Requirement Determinations

- **Sections 10-109(i)1A, 10-109(i)1Bi, 10-109(i)2 (15-Day)**
 - Minor changes for clarity
- **10-109(i)1B subsections ii through v**
 - Restrictions for the Energy Commission to consider an NDR application for program oversight
- **10-109(k) Photovoltaic System Requirement Determinations**
 - Minor changes for clarity



Section 10-114 Lighting Zone Reclassification

- Move rural areas from a default Lighting Zone of 2 to Lighting Zone 1.
- Revise conditions for designating a higher or lower lighting zone.
- Include new census classifications in Table 10-114-A; i.e., urban clusters, as a default Lighting Zone 2.
- Add building types likely to occur in each zone to Table 10-114-A.



10-115 Community Shared Solar or Battery Storage Systems

Section 10-115

- Refer to May 24, 2021 Presentation by Bill Pennington



Questions?





Joint Appendices

Presenter: Michael Shewmaker, Energy Commission Specialist II

DATE: May 28, 2021

Lead Commissioner Hearing for 45-Day Language



JA1 – Definitions

- Provided clarifications
- Updated documents relied upon
- Added new definitions where needed



JA2 – Reference Weather/Climate Data

- **JA2.1** – Updated climate/weather file references on format and dataset



JA3 – Time Dependent Valuation (TDV)

- **JA3.2** – updated TDV values for 2022



JA4 – U-factor, C-factor, and Thermal Mass Data

- **JA4.1.1** – Clarify that insulation installed in CA must be certified in accordance with Section 110.8 of the Energy Standards.
- **JA4.1.7** – Clarify that SPF insulation R-values must be certified with the Department of Consumer Affairs, Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation
- **JA4.2, Table 4.2.2** – Add columns for R-17, R-20, and R-23 continuous insulation



JA7.1-7.3 – Data Registry Requirements

- **JA7.1** – Provided clarifications (15-Day)
- **JA7.1(i)** – New requirement for data registries to be searchable for program oversight (15-Day)
- **JA7.2** – Provided clarifications and grammatical corrections, and added new definitions where needed
- **JA7.3** – Provided clarifications and minor grammatical corrections



JA7.4-7.6 – Data Registry Requirements

- **JA7.4** – Provided clarifications
- **JA7.4.1** – New requirement for Energy Commission access to data registries for program oversight (15-Day)
- **JA7.4.8** – New section for oversight and complaint investigation

- **JA5** – Provided clarifications and minor grammatical edits

- **JA6** – Provided clarifications and minor grammatical edits



JA7.7 & 7.8 – Data Registry Requirements

- **JA7.7** – provided clarifications and minor grammatical edits
- **JA7.8** – provided clarifications and minor grammatical edits
 - **JA7.8.2.7** – new section for program oversight (15-Day)

For more information regarding the specific changes to JA7 please see the slides appended to the end of this presentation.



JA8 – Qualification Requirements for High Luminous Efficacy Lighting Source

- Language clean-up
- Added term “luminous” for accuracy/precision



JA11- Qualification Requirements for Photovoltaic Systems

- Clarify system orientation language related to prescriptive (90 to 300 degrees from true North) and performance approach requirements
- Clarify CFI1 (150-270 DFTN) and CFI2 (105-300 DFTN) requirements
- Clarify prescriptive minimum shading requirement
- Solar assessment tool - Amend language to include list of functions needed for approval.



JA12 - Qualification Requirements for Battery Storage Systems

- Allow unpaired battery storage systems to qualify
- Clarify that roundtrip efficiency requirements are for prescriptive approach compliance only; performance modeled with actual roundtrip efficiency
- Add that minimizing GHGs may be a future control strategy for battery storage systems
- Add control strategy requirements for unpaired battery storage systems; include only TOU and Advanced Demand Flexibility control strategies (not Basic)



JA13 - Qualification Requirements for Heat Pump Water Heater Demand Management System

- New Joint Appendix to provide the qualification requirement for heat pump water heater demand flexibility compliance credit.
 - Specification includes criteria necessary to model the energy impacts of specific demand management features on heat pump water heaters.
- Identical to the JA13 compliance option approved by CEC in July 2020



JA14 - Qualification Requirements for Central Heat Pump Water Heater System

- New Joint Appendix to provide the qualification requirement to receive compliance credit for central HPWH systems in multifamily and nonresidential buildings
- Manufacturers would submit self-certified performance data to CEC
 - Require testing of a Basic Model
 - Simulated performance reporting allowed for other basic models sharing same series compressor, heat exchanger, architecture as tested basic model



Questions?





2022 Residential Appendices

Presenter: Cheng Moua, PE

DATE: May 28, 2021

Lead Commissioner Hearing for 45-Day Language



Residential Appendices

Variable Capacity Heat Pump Compliance Option approved in November 2019

- RA3.1.4.1.7 – Verification of Space-Conditioning System Airflow Supply to All Habitable Space
- RA3.1.4.1.8 – Verification of Ductless Space-Conditioning System Indoor Units Located Entirely in Conditioned Space
- RA3.1.4.2.2 – Nominal Air Handler Airflow
- RA3.1.4.7 – Verification of Air Filter Sizing According to Face Velocity Specification
- RA3.1.4.8 – Verification of Air Filter Pressure Drop Rating
- RA3.3.3.4.1 – Airflow Calculation
- RA3.4.4.3 – VCHP Performance Compliance Option Eligibility
- RA3.4.5 – Verification of Wall-Mounted Thermostat
- RA3.4.6 – Verification of Non-Continuous Indoor Unit Fan Operation



Residential Appendices

RA3.1.4.3 – Diagnostic Duct Leakage

- Duct leakage procedure setup when ventilation ducts connect to space conditioning system ducts was updated to clarify sealing/taping off the branch ventilation duct during the duct leakage test is not allowed

RA3.7.4.3 – Kitchen Local Mechanical Exhaust – Vented Range Hood Verification

- Updated to include capture efficiency as a compliance metric



Residential Appendices

RA3.7.4.4 – HRV or ERV Rated Performance Verification

- Added to include HRV/ERV recovery efficiency and fan efficacy as a compliance metric
- Expected 15-day language change to clarify the fan efficacy is a calculated value based on the wattage and airflow ratings listed in the CEC-approved directory

RA3.8 – Field Verification and Diagnostic Testing of Air Leakage of Building Enclosures and Dwelling Unit Enclosures

- Updated to incorporate the procedures in the most recent version of RESNET Standard 380



Residential Appendices

RA3.9 Field Verification and Diagnostic Testing of Whole House Fans

- Updated to replace the blower door protocol with a new airflow rate measurement that uses attic pressure matching and a fan flowmeter

RA4.4 Water Heating Measures

- Updated to reflect Standards language that aligns pipe insulation requirement with the California Plumbing Code



Residential Appendices

RA3.5.6.1 Spray Polyurethane Foam Thermal Specification

- Clarify that R-values must be certified with the Department of Consumer Affairs, Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation

RA3.5.6.3 Spray Polyurethane Foam Roof/Ceilings

- Recessed luminaires must either be rated for SPF insulation contact (SPCL) or separated from the spray foam by a suitable barrier box as directed in NEMA LSD 57-2018



Questions?





Nonresidential Appendix

Presenters: Haile Bucaneg, Daniel Wong, PE

DATE: May 28, 2021

Lead Commissioner Hearing for 45-Day Language



NA1 – Nonresidential HERS Verification, Testing, and Documentation Procedures

NA1.1 – California Home Energy Rating Systems

- Updated references with new duct leakage requirements and tables for kitchen range hoods.

Table NA1-1 - Summary of Measures Requiring Field Verification and Diagnostic Testing

- Included references to verifications for kitchen range hoods located in NA2.2.4.1.4, and HRV/ERV systems located in NA2.2.4.1.5.

NA1.9 Acceptance Test Technicians Alternative Procedure

- Clarifies the alternative procedure when an acceptance test technician (ATT) performs field verifications in nonresidential occupancies that were specified to be performed by HERS Raters, and clarifies the alternative procedure is applicable to all HERS procedures specified in NA2.



NA2 - Nonresidential HERS Field Verification and Diagnostic Test Procedures

NA2.1.1 Purpose and Scope

- Adds HERS to the section title, and updates references to sections that are proposed to be amended.

NA2.1.4.1-Nominal Air Handler Airflow

- Updated to be consistent with the requirements in residential appendices.

•Table NA 2.2-1 Summary of Verification and Diagnostic Procedures & NA2.2.4.1.2- Balanced Ventilation Systems & NA2.2.4.1.5 Heat Recovery Ventilation (HRV) or Energy Recovery Ventilation (ERV) Rated Performance Verification

- Updated/added to include HRV/ERV recovery efficiency and fan efficacy as compliance metrics.
- 15-day language change for NA2.2.4.1.5 is expected to clarify that fan efficacy is a calculated value based on the Watt and airflow ratings listed in the CEC-approved directory.

•NA2.2.4.1.4 - Kitchen Local Mechanical Exhaust - Vented Range Hood Verification

- Updated to include capture efficiency as a compliance metric.



NA2 - Nonresidential HERS Field Verification and Diagnostic Test Procedures

NA2.3 - Field Verification and Diagnostic Testing of Multifamily Dwelling Unit Enclosures

- Updated to incorporate the most recent version of RESNET Standard 380

NA2.4 - Field Verification and Diagnostic Testing of Whole Building Air Leakage

- Added to provide direction for whole-building envelope leakage field verification for nonresidential buildings

NA2.5 - Verification of Continuous Air Barrier

- Adds a procedure for verifying air barrier installation



NA6 – Alternate Default Fenestration Procedure to Calculate Thermal Performance

NA6.1 Scope & NA6.5 Responsibilities for Compliance

- Clarifies scope includes non-rated site-built skylights and alterations to vertical fenestration.
- Removes 200 sqft exception for nonresidential compliance



NA7 – Installation and Acceptance Requirements for Nonresidential Buildings and Covered Processes

NA7.4 – Building Envelope Acceptance Tests

- **NA7.4.5 – Interior and Exterior Horizontal Slats**
 - Clarifies procedures apply to all interior and exterior horizontal slats.



NA7.5 – Mechanical System Acceptance Tests

NA7.5.4 Air Economizer Controls and Exhaust Air Heat Recovery

- Addition of testing procedures for dedicated outside air systems (DOAS) with heat recovery bypassing in accordance to Section 140.4(p).

NA7.5.17 - Occupied Standby by

- Revise and update test procedures to reflect changes to occupant sensing control requirements in Section 120.1(d)5.
- Addition of testing procedure for verifying pre-occupancy ventilation mode.



NA7.6 – Indoor Lighting Controls Acceptance Tests

NA7.6.1 - Automatic Daylighting Controls Acceptance Tests

- Revise and update procedures to improve clarity and consistency.
- Addition of specific items to be verified and documented prior to functional testing.
- Clarify testing procedures for secondary sidelit daylit zones and daylit zones in parking garages.
- Addition of testing procedures for an alternative partial daylight test based on outdoor horizontal illuminance.



NA7.6 – Indoor Lighting Controls Acceptance Tests

NA7.6.2 - Shut-off Controls Acceptance Tests

- Revise and update procedures to improve clarity and consistency.
- Addition of specific items to be verified and documented prior to functional testing.
- Clarify testing procedures to include each type of occupant sensing control.
- Addition of testing procedures for multi-zone occupant sensing controls in accordance to Section 130.1(c)6D.



NA7.6 – Indoor Lighting Controls Acceptance Tests

NA7.6.3 - Demand Responsive Controls Acceptance Tests

- Addition of specific items to be verified and documented prior to functional testing in accordance to Section 110.12(a).
- Remove requirement that illuminance must not be reduced below 50 percent of design illuminance.
- Provide additional testing method based on full facility current measurement.



NA7.6 – Indoor Lighting Controls Acceptance Tests

NA7.6.4 - Institutional Tuning Power Adjustment Factor (PAF)

- Relocated the requirements for Institutional Tuning Power Adjustment Factor (PAF) Acceptance Tests from NA7.7.5 to NA7.6.4.
- Revise and update procedures to improve clarity and consistency.

NA7.6.5 - Demand Responsive Controls – Controlled Receptacles

- Addition of testing procedure for demand responsive controls for controlled receptacles in accordance to Section 110.12(e).



NA7.7 Indoor Lighting Controls Installation

- Deleted the introductory text in NA7.7 as most of it is redundant to the body of text in NA7.7.
- **Section ~~NA7.7.5.2~~ Acceptance Tests for Institutional Tuning.** Moved the Institutional Tuning PAF Acceptance Test requirements to Section NA7.6.4 so that all the lighting acceptance tests are in Section NA7.6.
- **Section NA7.7.5 Power Adjustment Factor (PAF) Installation Verifications.** Retained the Power Adjustment Factor Installation Verification requirements in Section NA7.7.5.



NA7.8 – Outdoor Lighting Controls Acceptance Tests

NA 7.8.1 - Motion Sensing Controls Acceptance Tests

- Reorganize motion sensing controls test procedures to be under the revised Subsection of NA7.8.1 to improve the readability and the ease of use of the Code.

NA 7.8.2 - Photocontrols Acceptance Tests

- Reorganize the photocontrols test procedures to be under the revised Subsection of NA7.8.2 to improve the readability and the ease of use of the Code.
- Consolidate photocontrol test procedures from NA7.8.3 and NA7.8.4.
- Addition of sampling procedures for photocontrols functional testing.



NA7.8 – Outdoor Lighting Controls Acceptance Tests

NA7.8.5 - Automatic Scheduling Controls Acceptance Tests

- Reorganize the test procedures for automatic scheduling controls to be under the revised Subsection of NA7.8.5 to improve the readability and the ease of use of the Code.
- Consolidate automatic time-switch control and astronomical time-switch control test procedures from NA7.8.6 and NA7.8.7.



NA7.13 – Compressed Air System Acceptance Tests

NA 7.13.2 - Compressed Air Monitoring

- Addition of testing procedure for compressed air monitoring systems in accordance to Section 120.6(e)3.



NA7.18 – Multifamily Building Acceptance Tests

NA7.18.1 – Dwelling Unit System Acceptance

- Added HRV/ERV equipment is HVI certified in the construction inspection.

NA7.18.3 - Central Ventilation System Duct Leakage Acceptance

- Added to give direction for field verification of multifamily central ventilation duct system duct leakage.

NA7.18.4 - Rated Central Ventilation System Heat Recovery or Energy Recovery Acceptance

- Added to give direction for field verification of Multifamily ventilation system heat recovery or energy recovery.



NA7.19 – Steam Trap Fault Detection Acceptance Tests

NA7.19.1 - Steam Trap Fault Detection

- Addition of testing procedures for steam trap fault detection in accordance to Section 120.6(i).



NA7.20 – Transcritical CO₂ Systems Acceptance Tests

NA7.20.1 - Transcritical CO₂ Gas Cooler and Gas Cooler Fan Motor Variable Speed Control for Refrigerated Warehouses and Commercial Refrigeration

- Addition of testing procedures for transcritical CO₂ systems in accordance to Section 120.6(a) and Section 120.6(b).



Questions?



ACM Approval Manual Proposal for 2022

Staff Rulemaking Workshop



Presenter: RJ Wichert, Mechanical Engineer

Date: May 28, 2021



Approval Manual Description

- Alternative Calculation Method Approval Manual sets compliance software approval requirements and procedures.
- Not to be confused with the non-regulatory Reference Manuals, which are developed after adoption and approved by the Energy Commission at a Business Meeting.



Proposal Summary

- Staff is not proposing substantial changes to the 2019 ACM Approval Manual.
- Staff may consider non-substantive language cleanup in 15-Day language, as needed, to ensure clarity and correct errata.



Language Cleanup

1.1.5 Alternative Nonresidential Energy Simulation Engines

Software vendors may propose to use alternative energy simulation engines for nonresidential modeling, provided the energy simulation engine passes ASHRAE 140 (2014) and produces results that are accurate to the simulation results of the Compliance Manager within a negligible margin of error, meaning that it has no effect on the determination of building compliance or noncompliance or on final metrics such as percent compliance margin.

In this case, ~~the compliance rules contained in the Compliance Manager vendor software~~ shall be directly integrated in the vendor software by incorporating the Energy Commission developed ruleset, rules processor, and report generator adhere to Energy Commission published schema and rulesets, and submit compliant data to the Energy Commission developed report generator. The vendor shall not establish differing compliance rules from those that have been approved by the Energy Commission for use in the Compliance Manager. The Energy Commission shall verify that the simulation is accurate compared to the Compliance Manager and that the implemented compliance rules are identical.



Questions?





How to submit Written Comments

- **We strongly encourage submitting written comments via e-file.** Comments on the proposed 2021 Energy Code can be submitted to:

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=21-BSTD-01>

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California Energy Commission

Dockets Office, MS-4

Re: Docket No. 21-BSTD-01

1516 Ninth Street

Sacramento, CA 95814-5512

Docket@energy.ca.gov

Final deadline for written comments is June 21, 2021 by 5:00 PM, but sooner the better.



Thank You!





REFERENCE APPENDICES JOINT APPENDICES JA7

Presenter: Joe Loyer, Senior Mechanical Engineer

Date: May 28, 2021

Lead Commissioner Hearing for 45-Day Language

Section 7.1: Purpose and Scope

- Reference add to “Compliance Registration Packages” for clarity (15-Day)
- Correction of “document repository” to “Commission Compliance Document Repository” for clarity (15-Day)
- Requirement (i) added for program oversight (15-Day)
 - Requires that the data registry be a searchable database to be used by Energy Commission staff
- Reference to the Data Registry Requirements Manual updated for clarity

Section 7.2: Definitions 1 of 2

- **New term:** Application Programming Interface (API)
 - Provide a new means of data transfer to or from a data registry
- Compliance Registration Package modified for clarity (15-Day)
- Nonresidential Data Registry modified for clarity
- **New Term:** EDDS Provider added for clarity

Section 7.2: Definitions 2 of 2

- Correction to term “Registered Document” for clarity (15-Day)
- Registration – reference to Compliance Registration Package for clarity (15-Day)
- Registration Provider – updated reference to the DRRM for clarity
- Other grammatical corrections

Section 7.3: Introduction

Changes made for clarification:

- Updated references to the DRRM
- Reference to “Compliance Registration Package” (15-Day)
- Minor grammatical edits (15-Day)

Section 7.4: Roles and Responsibilities, and Authorized Users

Changes made for clarification:

- Updated references to the DRRM
- Reference to “Compliance Registration Package” (15-Day)
- Minor grammatical edits (15-Day)

Section 7.4.1 Registration Provider

New: Commission access to data registries for program oversight (15-Day)

- Search function with no limit on size
- List of all user accounts
- Searchable filters requirements
- Summary report requirements

Section 7.4.8 Commission Oversight

New Section for oversight and complaint investigation

- Commission access to Compliance Registration Packages within 30 days of request
- Provider to explain basis in writing, if unable to comply
- Possible review of Provider approval

Section 7.5 Document Registration Requirements

Changes made for clarification:

- Updated references to the DRRM
- Reference to “Compliance Registration Package” (15-Day)
- Minor correction to JA7.5.6.1.2 (15-Day)
- Minor correction to JA7.5.6.2 Revision Control (15-Day)
- Minor grammatical edits (15-Day)

Section 7.6 Electronic and Digital Signature Requirements

Changes made for clarification:

- Updated references to the DRRM
- Reference to “Compliance Registration Package” (15-Day)
- Restriction from registering ATTCP acceptance tests (15-Day)
- Data validation referenced to XML Schema (15-Day)
- Minor grammatical edits (15-Day)

Section 7.7 Data Exchange Requirements

Changes made for clarification:

- JA7.7.1.2.1 adding the API data transference option
- Updated references to the DRRM
- Reference to “Compliance Registration Package” (15-Day)
- Data validation referenced to XML Schema (15-Day)
- Minor grammatical edits (15-Day)

Section 7.8 Data Registry Approval

Changes made for clarification:

- Updated references to the DRRM
- JA7.8.2.6 – each EDDS using the API must be approved
- JA7.8.4.1 – the Executive Director may initiate data registry approval review
- JA7.8.5 – online help screen satisfy user manual requirements
- JA7.8.5.5 – EDDS proprietary information excluded from user manual
- Minor grammatical edits

Section 7.8.2.7 Record of Quality Assurance Action Taken

New Section for program oversight (15-Day)

Required 3-year record of quality assurance actions

- Record of all investigations and remedies
- Record of all Energy Commission initiated investigations

Questions?





Thank You!

