

| DOCKETED | |
|-------------------------|---|
| Docket Number: | 21-BSTD-01 |
| Project Title: | 2022 Energy Code Update Rulemaking |
| TN #: | 238377 |
| Document Title: | Statewide Utility Codes and Standards Enhancement Team Comments - on Multifamily Common Use Area Requirements – 45-Day Language |
| Description: | N/A |
| Filer: | System |
| Organization: | Statewide Utility Codes and Standards Enhancement Team |
| Submitter Role: | Public |
| Submission Date: | 6/21/2021 3:54:53 PM |
| Docketed Date: | 6/21/2021 |

*Comment Received From: Statewide Utility Codes and Standards Enhancement Team
Submitted On: 6/21/2021
Docket Number: 21-BSTD-01*

Comment on Multifamily Common Use Area Requirements – 45-Day Language

Additional submitted attachment is included below.

Comment on Multifamily Common Use Area Requirements – 45-Day Language

CALIFORNIA STATEWIDE UTILITY CODES AND STANDARDS TEAM

June 21, 2021

1. Introduction

The California Statewide Utility Codes and Standards Enhancement Team (Statewide CASE Team) appreciates the opportunity to participate in the review of the May 6, 2021 Express Terms 2022 Energy Code, Title 24 Parts 1 and 6 (45-Day Express Terms)¹.

The Statewide CASE Team actively supports code-setting bodies in developing and revising building energy codes and standards. The program's objective is to achieve significant energy savings and assist in meeting other energy-related state policy goals through the development of reasonable, responsible, and cost-effective code changes. Three California Investor Owned Utilities — Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison – and two Publicly Owned Utilities — Los Angeles Department of Water and Power and Sacramento Municipal Utility District (herein referred to as the Statewide CASE Team when including the CASE Authors) — sponsored this effort. The Statewide CASE Team is actively supporting the California Energy Commission (Energy Commission) in updating the California Energy Code (Title 24, Part 6) for the 2022 code update cycle. Through CASE Reports, the Statewide CASE Team has provided the Energy Commission with the technical and cost-effectiveness information required to make informed judgments on proposed standards for promising energy efficiency design practices and technologies.

The Statewide CASE Team encourages the Energy Commission to consider the recommendations presented in this document.

¹CEC Docket #21-BSTD-01, Document #237717

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=237717&DocumentContentId=70942>

2. Background

The Statewide CASE Team's Multifamily Restructuring proposal² included new subsections in Title 24, Part 6 which applied the 2019 residential requirements to multifamily dwelling units and 2019 nonresidential requirements to multifamily common use areas. This application is consistent with the 2019 requirements for multifamily buildings four or more habitable stories and multifamily buildings three or fewer habitable stories in which 20 percent or more of the conditioned floor area is not dwelling unit space. For multifamily buildings three or fewer habitable stories, where less than 20 percent of the conditioned floor area is outside of the dwelling units, the common area may meet residential requirements under 2019 Title 24, Part 6. The Statewide CASE Team proposed application of the nonresidential requirements to all common use areas to reduce energy use, align and simplify requirements across all multifamily buildings, and offer compliance credit opportunity under the performance approach.

The Statewide CASE Team does not propose changes to the Title 24, Part 6 definition of *dwelling unit*. This definition captures living, sleeping, eating, cooking, and sanitation spaces contained in a single unit. As understood by the multifamily building industry, a dwelling unit may include shared living, eating, cooking, and sanitation behind the door of a single unit with multiple sleeping rooms. The definition the Statewide CASE Team proposes for *common use area* comes from Title 24, Part 2 and includes all non-dwelling unit spaces in a multifamily building that are shared solely by owners, residents, and their guests. The February Express Terms and May 45-Day Express Terms introduced new terms and definitions for *common living area* and *common services area*, each a subcategory within common use area. The new terms, as applied in the 45-Day Express Terms, allow indoor air quality, space conditioning, and lighting requirements to differ between common living areas and common services areas, rather than apply to all common use areas.

The Statewide CASE Team and Compliance Improvement Team agree that introduction of *common living area* and *common services area* terms will cause confusion and questioning of the established and well-understood definitions of dwelling unit and common use area. Common living areas exist within and outside of dwelling units in multifamily buildings. Under 2019 Title 24, Part 6, common living areas within the dwelling unit are subject to dwelling unit requirements and those outside of the dwelling unit are subject to common use area requirements. Allowing these to fall under the dwelling unit and common use area definitions eliminates the need to introduce a new (and unfamiliar) *common services area* term. The compliance manuals are an

² Docket: 19-BSTD-03, TN#: 236072

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=236072&DocumentContentId=69075>

appropriate platform for further illustrating application of requirements to various types of dwelling units and common use areas.

3. Summary of Recommended Revisions

The Statewide CASE Team has reviewed the code language and recommends removing the definitions for ‘common living area’ and ‘common services area’ and using ‘common use area’ for all spaces outside of the dwelling unit and shared exclusively by owners, residents, and their guests. This revision simplifies the requirements and results in the closest alignment with 2019 Title 24, Part 6 requirements for low-rise and high-rise residential buildings.

What is described in the 45-Day Language as ‘common living areas’ outside of the dwelling unit do not share usage patterns or metering structures with dwelling units and are therefore better grouped with other common use areas. The Statewide CASE Team’s recommends removing the term ‘common living area’, and exclusion of these spaces from dwelling unit requirements in the following sections:

- Section 160.3(a)1. Space conditioning control requirements for dwelling units are not appropriate for common living areas outside of the dwelling unit. Common use areas are typically served by separate conditioning systems than dwelling units and occupied differently than dwelling units. These shared spaces are typically metered separately from the dwelling units and individual residents are not accountable for energy use in these spaces. The control requirements of Section 160.3(a)2 allow for proper energy management in shared spaces and should apply to common living areas outside of the dwelling unit.
- Section 160.5(a). Dwelling unit lighting control requirements for common living areas outside of the dwelling unit are more appropriately grouped with the other common use area spaces, covered under 160.5(b). 2019 Title 24, Part 6 requirements for multifamily buildings three and fewer habitable stories under Section 150.1(k)6 include requirements for lighting controls in interior common areas that are not included in the 45-Day Language for Section 160.5(a). Section 160.5(b) includes appropriate occupancy controls for all common use areas.
- Section 160.6(b), as written in the 45-Day Language, allows exception to requirements for separation of electrical circuits for electrical energy monitoring for common living areas. Common living areas outside of the dwelling unit are unlikely to be metered differently or separately from common service areas. Common living areas do not need exceptions associated with dwelling units and including them in the exception may cause undue confusion for installation contractors and inspectors.
- Section 180.2(b)4A applies dwelling unit lighting requirements to common living areas. Consistent with the Statewide CASE Team proposal for new construction, we recommend that requirements for all lighting outside of the dwelling unit (all common use areas) align under Section 180.2(b)4B.

Under 2019 Title 24, Part 6 all common use areas are generally, and appropriately, subject to nonresidential requirements. This includes spaces that serve as community living areas outside of the individual dwelling units. The Statewide CASE Team's recommends replacing the term 'common services area' with 'common use area' in the following sections:

- Section 160.2(c), as written in the 45-Day Express Terms, applies to common services areas and Section 160.2(b) applies to dwelling units. Common living areas outside of the dwelling unit do not fall under either definition are by default exempt from indoor air quality requirements. ASHRAE 62.2, from which requirements for residential indoor air quality originate, applies specifically to enclosed dwelling units and does not extend to common living areas outside of the dwelling unit. All common use areas should therefore comply with the requirements of Section 160.2(c), which captures application to all common use spaces in Table 160.2-B through Table 160.2-F.
- Section 160.3(a)2, as written in the 45-Day Express Terms, applies space conditioning control requirements only to common services areas. This section should apply to all common use areas, including common living areas outside of the dwelling unit, for appropriate energy management in shared spaces.
- Section 160.3(c), as written in the 45-Day Express Terms, applies mandatory space conditioning requirements to common services areas and Section 160.3(b) applies to dwelling units. This leaves common living areas outside of the dwelling unit exempt from mandatory space conditioning requirements.
- Section 160.5(b) does not include common living areas outside of dwelling units, as written in the 45-Day Express Terms. The result is removal of occupancy control requirements for interior common areas of multifamily buildings, under 2019 Title 24, Part 6 Section 150.1(k)6.
- Section 160.6(d) includes requirements for circuit controls for 120-volt receptacles and controlled receptacles for common services areas. Common living areas outside of the dwelling unit should not be exempt from this requirement.
- Section 170.2(e), which originates from the nonresidential prescriptive lighting requirements, applies only to common services areas in the 45-Day Express Terms. The Statewide CASE Team understands that common living areas outside of the dwelling unit were previously subject to low-rise residential requirements if less than 20 percent of the conditioned floor area. Per stakeholder conversations, these spaces easily meet the power allowances outlined in Section 170.2(e) without additional cost. Allowances for each common use area, including common living areas outside of the dwelling unit, are already included in Tables in Section 170.2. Grouping the common living areas with the other common use areas establishes a platform for improving prescriptive requirements and offering compliance options for these spaces in future code cycles. Otherwise, these spaces are subject to mandatory requirements only.

- Section 180.2(b)4B applies lighting requirements only to common services areas and excludes common living areas. The Statewide CASE Team recommends alignment of all common use areas under this section, consistent with our proposed changes for new construction.

4. Proposed Code Language

This section presents a marked-up version of the 45-Day Express Terms. Changes Revisions to the 2019 code language that the Energy Commission published in the 45-Day Express Terms are underlined in black for the additions and ~~strikethrough in black~~ for deletions. The Statewide CASE Team’s recommended revisions are marked with an underline in red text for additions and with ~~strikeout~~ in red for deletions. The proposed revision would impact the following sections: Sections 100.1, Sections 160.2(c), 160.3(a), Section 160.3(c), 160.5(a), 160.5(b), 160.5(e), 160.6(b), 160.6(d), 170.2(e), and 180.2(a).

SECTION 100.1 – DEFINITIONS AND RULES OF CONSTRUCTION

... sections omitted ...

~~**COMMON LIVING AREAS** are habitable common use areas in multifamily buildings intended for use by residents in the same manner as dwelling spaces. Common living areas do not include nonhabitable common use areas; see common service areas.~~

~~**COMMON SERVICE AREAS** are nonhabitable common use areas in multifamily buildings used to provide amenities or services to residents and their guests, including but not limited to shared laundry facilities, gyms and workout areas, guest services areas, pool or spa areas, recreational areas, and office areas or conference rooms available for use by residents. Common service areas also include office and maintenance spaces necessary for the operation of the multifamily building. Common service areas do not include habitable common use areas; see common living areas.~~

COMMON USE AREAS are private use areas within multifamily residential facilities where the use of these areas is limited exclusively to owners, residents, and their guests. The areas may be defined as rooms or spaces or elements inside or outside of a building.

... sections omitted ...

SECTION 160.2 – MANDATORY REQUIREMENTS FOR VENTILATION AND INDOOR AIR QUALITY

... sections omitted ...

- (c) **Common Services Use Areas.** All occupiable spaces shall comply with the requirements of subsection 1 and shall also comply with either subsection 2 or subsection 3:

... sections omitted ...

SECTION 160.3 – MANDATORY REQUIREMENTS FOR SPACE CONDITIONING SYSTEMS IN MULTIFAMILY BUILDINGS

Space conditioning systems serving multifamily dwelling units and common use areas shall comply with the applicable requirements of Sections 160.3(a) through 160.3(c).

(a) Controls – Space conditioning systems serving dwelling units and common use areas in multifamily buildings shall comply with applicable requirements of Sections 160.3(a)1 or 160.3(a)2.

1. **Dwelling Unit and common living area Thermostats.** All heating or cooling systems, including heat pumps, not controlled by a central energy management control system (EMCS) shall have a setback thermostat, as specified in Section 110.2(c).
2. **Common ServicesUse Area Controls.** Heating or cooling systems serving common servicesuse areas of multifamily buildings shall comply with application requirements of Sections 160.3(a)2A through 160.3(a)2J.

... sections omitted ...

(c) Common ServicesUse Area Space-Conditioning Systems. Multifamily common servicesuse areas shall comply with the applicable requirements of Sections 160.3(a)2A through 160.3(a)2J.

... sections omitted ...

1. **Requirements for Air Distribution System, Ducts, and Plenum.** Multifamily common servicesuse areas shall comply with the applicable requirements of Sections 160.3(c)2A through 160.3(c)2F.

... sections omitted ...

2. **Mechanical Acceptance Testing.** Multifamily common servicesuse areas shall comply with the applicable requirements of Sections 160.3(c)3A and 160.3(c)3B.

... sections omitted ...

SECTION 160.5 – MANDATORY LIGHTING REQUIREMENTS FOR INDOOR AND OUTDOOR SPACES

The design and installation of all lighting systems and equipment in multifamily buildings within the scope of Section 100.0(a) shall comply with the applicable provisions of Section 160.5. All functional areas except dwelling units and common living areas shall comply with the applicable requirements of Section 160.5(b) through 160.5(e).

(a) Dwelling Unit and Common Living Area Lighting.

The design and installation of all lighting systems and equipment in multifamily dwelling units and common living areas shall comply with Section 160.5(a). Multifamily dwelling units include dormitory and senior housing dwelling accommodations. Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit shall comply with the lighting requirements of Section 160.5(a).

... sections omitted ...

(b) Common ServicesUse Area Lighting. Lighting systems and equipment in multifamily common servicesuse areas shall comply with the applicable provisions of Sections 160.5(b)1 through 160.5(b)4.

NOTE: The requirements of Section 160.5(b) applies to newly constructed buildings. Sections 180.1 and 180.2 specify which requirements of Sections 160.5(b)1 through 160.5(e) also apply to additions and alterations to existing buildings.

... sections omitted ...

(e) Lighting Control Acceptance and Installation Certificate Requirement. Multifamily common servicesuse areas shall comply with the applicable requirements of Sections 160.5(e)1 through 160.5(e)3.

... sections omitted ...

SECTION 160.6 – MANDATORY REQUIREMENTS FOR ELECTRIC POWER DISTRIBUTION SYSTEM

Multifamily buildings shall comply with the applicable requirements of Sections 160.6(a) through 160.6(e).

... sections omitted ...

(b) Separation of Electrical Circuits for Electrical Energy Monitoring. Electrical power distribution systems shall be designed so that measurement devices can monitor the electrical energy usage of load types according to TABLE 160.6-B.

EXCEPTION 1 to Section 160.6(b): For each separate load type, up to 10 percent of the connected load may be of any type.

EXCEPTION 2 to Section 160.6(b): Submetered electrical power distribution systems that provide power to dwelling units ~~or common living areas.~~

... sections omitted ...

(d) Circuit Controls for 120-Volt Receptacles and Controlled Receptacles. In all common ~~service use~~ areas, both controlled and uncontrolled 120 volt receptacles shall be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, and copy rooms. Controlled receptacles shall meet the following requirements, as applicable:

... sections omitted ...

SECTION 170.2 – PRESCRIPTIVE APPROACH

Multifamily buildings, including both dwelling units and common use areas, that comply with the prescriptive standards shall be designed, constructed, and equipped to meet all of the requirements for the appropriate Climate Zone shown in TABLE 170.2-A. In TABLE 170.2-A, a NA (not allowed) means that feature is not permitted in a particular Climate Zone and a NR (no requirement) means that there is no prescriptive requirement for that feature in a particular Climate Zone. Installed components shall meet the following requirements:

... sections omitted ...

(e) Lighting. Dwelling unit ~~and common living area~~ lighting shall meet the applicable mandatory requirements of Section 160.5(a). Common ~~service use~~ area lighting shall meet the following requirements:

a. Interior Common ~~Service Use~~ Area Lighting. A building complies with Section 170.2(e)1 if:

i. The Calculation of Adjusted Indoor Lighting Power of all proposed building areas combined, calculated under Subsection A is no greater than the Calculation of Allowed Indoor Lighting Power, Specific Methodologies calculated under Subsection (c); and

ii. The Calculation of Allowed Indoor Lighting Power, General Rules comply with Subsection B;

The prescriptive limits on indoor lighting power are the smaller of the Actual and Allowed Indoor Lighting Power values determined in accordance with item i.

... sections omitted ...

SECTION 180.2 – ALTERATIONS

Alterations to components of existing multifamily buildings, including alterations made in conjunction with a

change in building occupancy to a multifamily occupancy shall meet item (a), and either Item (b) or (c) below:

EXCEPTION 1 to Section 180.2: When heating, cooling or service water heating for an alteration are provided by expanding existing systems, the existing systems and equipment need not comply with Sections 110.0 through 110.10, 160.0 through 160.7, and Section 170.2(c) or 170.2(d).

EXCEPTION 2 to Section 180.2: When existing heating, cooling or service water heating systems or components are removed within a building, the existing systems or components need not comply with Sections 110.0 through 110.10, 160.0 through 160.7, and Section 170.2(c) or 170.2(d).

EXCEPTION 3 to Section 180.2: Where an existing system with electric reheat is expanded when adding variable airvolume (VAV) boxes to serve an alteration, total electric reheat capacity may be expanded not to exceed 20 percent of the existing installed electric capacity in any one permit and the system need not comply Section 170.2(b)4E. Additional electric reheat capacity in excess of 20 percent may be added subject to the requirements of the Section 170.2(b)4E.

EXCEPTION 4 to Section 180.2: The requirements of Section 160.3(a)2H shall not apply to alterations of space-conditioning systems or components.

(a) Mandatory Requirements. Altered components in a multifamily building shall meet the minimum requirements in this Section.

... sections omitted ...

(b) Prescriptive approach. The altered component and any newly installed equipment serving the alteration shall meet the applicable requirements of Sections 110.0 through 110.9 and all applicable requirements of Section 160.0, 160.1, 160.2(c) and (d), 160.3(a) through 160.3(b)5J, 160.3(b)6, 160.3(c), and 160.5; and

1. Envelope -

... sections omitted ...

4. Lighting.

i. **Dwelling Unit and Common Living Area Lighting.** The altered lighting system shall meet the lighting requirements of Section 160.5(a). The altered luminaires shall meet the luminaire efficacy requirements of Section 160.5(a) and TABLE 160.5-A. Where existing screw base sockets are present in ceiling-recessed luminaires, removal of these sockets is not required provided that new JAS compliant trim kits or lamps designed for use with recessed downlights or luminaires are installed.

ii. **Common Services Use-Area – Lighting, Sign Lighting, and Electrical Power Distribution Systems.**

1. Spaces with lighting systems installed for the first time shall meet the requirements of Sections 110.9, 160.5(b)1, 160.5(b)2, 160.5(b)3, 160.5(b)4, 160.5(c), 160.5(e), 170.2(b), 170.2(e)1, and 170.2(e)2.
2. When the requirements of Section 160.5(b)4D are triggered by the addition of skylights to an existing building and the lighting system is not recircuited, the daylighting control need not meet the multi-level requirements in Section 160.5(b)4D.
3. New internally and externally illuminated signs shall meet the requirements of Sections 110.9, 160.5(d) and 170.2(e)3.

... sections omitted ...

TABLE 180.2-D-E – Control Requirements for Indoor Lighting System Alterations for Common Services Use Areas

| Control Specifications | | Projects complying with Section <u>180.2(b)4Biva</u> | Projects complying with Sections <u>180.2(b)4Bivb</u> and <u>180.2(b)4Bivc</u> |
|------------------------------------|----------------------|---|---|
| Manual Area Controls | <u>160.5(b)4Ai</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(b)4Aii</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(b)4Aii</u> | <u>Only required for new or completely replaced circuits</u> | <u>Only required for new or completely replaced circuits</u> |
| Multi-Level Controls | <u>160.5(b)4B</u> | <u>Required</u> | <u>Not Required</u> |
| Automatic Shut Off Controls | <u>160.5(c)4Ci</u> | <u>Required; 160.5(b)4Cid only required for new or completely replaced circuits</u> | <u>Required; 160.5(b)4Cid only required for new or completely replaced circuits</u> |
| | <u>160.5(c)4Cii</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(c)4Cii</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(c)4Civ</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(b)4Cv</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(b)4Cvi</u> | <u>Required</u> | <u>Required</u> |
| | <u>160.5(b)4Cvii</u> | <u>Required</u> | <u>Required</u> |
| Daylighting Controls | <u>160.5(b)4D</u> | <u>Required</u> | <u>Not Required</u> |
| Demand Responsive Controls | <u>160.5(b)4E</u> | <u>Required</u> | <u>Not Required</u> |

... sections omitted ...