

Chapter 194-50 WAC
**WASHINGTON STATE DEPARTMENT OF COMMERCE ADOPTION AND AMENDMENT OF ASH-
RAE STANDARD 100, 2018**

Last Update: 10/30/20

WAC

194-50-001	Foreword.
194-50-010	ASHRAE Standard 100, 2018—Section 1—Purpose.
194-50-020	ASHRAE Standard 100, 2018—Section 2—Scope.
194-50-030	ASHRAE Standard 100, 2018—Section 3—Definitions.
194-50-040	ASHRAE Standard 100, 2018—Section 4—Compliance.
194-50-050	ASHRAE Standard 100, 2018—Section 5—Energy management plan.
194-50-060	ASHRAE Standard 100, 2018—Section 6—Maintenance and operation.
194-50-070	ASHRAE Standard 100, 2018—Section 7—Energy-use analysis and target requirements.
194-50-080	ASHRAE Standard 100, 2018—Section 8—Audits.
194-50-090	ASHRAE Standard 100, 2018—Section 9—Requirements.
194-50-110	ASHRAE Standard 100, 2018—Section 11—References.
194-50-120	Normative Annex C Forms.
194-50-130	Normative Annex L—Operations and maintenance implementation.
194-50-140	Normative Annex X—Investment criteria.
194-50-150	Normative Annex Z—Washington state reporting requirements.

WAC 194-50-001 Foreword. *ANSI/ASHRAE/IES Standard 100-2018 Energy Efficiency in Existing Buildings* is hereby adopted by reference with the exceptions noted in this chapter of the Washington Administrative Code (WAC). In the event of a conflict between the standard and rules in this chapter, the provisions of this chapter apply.

ANSI/ASHRAE/IES Standard 100-2018 Energy Efficiency in Existing Buildings is adopted by the Washington state department of commerce pursuant to RCW 19.27A.200, 19.27A.210, and 19.27A.220. This standard has been adopted by reference and modified to implement the requirements for covered commercial buildings as directed by the Washington state legislature. The legislature delegated the responsibility of adoption and amendment of this standard to the Washington state department of commerce.

Complying with this rule requires the user to comply with *ANSI/ASHRAE/IES Standard 100-2018* as amended by this rule. When this rule amends a section of *Standard 100*, the entire section is published in the rule. The user will need to have both documents in hand, but detailed comparison within any one section is not necessary. Simply apply the entire section as published in the rule. All other sections in *Standard 100* apply.

The Washington state administrative requirements for this standard are included in Normative Annex Z. For building owners that must comply with this standard, reading Normative Annex Z first allows the owner to put the rest of the standard in context. Multiple compliance options are available and should be reviewed prior to beginning implementation of this standard.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-001, filed 10/30/20, effective 11/30/20.]

WAC 194-50-010 ASHRAE Standard 100, 2018—Section 1—Purpose.

1.1 This standard provides criteria that will result in reduced energy consumption through improved energy efficiency and performance in existing *buildings*. In adopting this standard by rule, Washington state department of commerce shall seek to maximize reductions of greenhouse gas emissions from the building sector.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-010, filed 10/30/20, effective 11/30/20.]

WAC 194-50-020 ASHRAE Standard 100, 2018—Section 2—Scope. This standard is mandatory for all *covered commercial buildings* located in the state of Washington. This standard is also applied as a voluntary standard for applicable multifamily residential buildings seeking early adopter incentives consistent with RCW 19.27A.220.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-020, filed 10/30/20, effective 11/30/20.]

WAC 194-50-030 ASHRAE Standard 100, 2018—Section 3—Definitions.

3.1 General

Agricultural structure: A structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products, and is not a place used by the public or a place of human habitation or employment where agricultural products are processed, treated, or packaged.

Applicable building codes: The Washington state building codes as adopted by the Washington state building code council, and as modified by local government amendments.

Authority having jurisdiction (AHJ): Washington state department of commerce.

Building owner: An individual or entity possessing title to a building.

Campus: A campus is a collection of buildings served by a campus district heating, cooling, water reuse and/or power system owned by the same building owner.

Campus district heating and/or cooling system: A district heating and/or cooling system that serves a campus and is owned by the building owner.

Certified commissioning professional: A person who is certified by an ANSI/ISO/IEC 17024:2012 accredited organization to lead, plan, coordinate, and manage commissioning teams and implement the commissioning process and with experience commissioning at least two projects of similar size and of similar equipment to the current project, and at least one in the last three years. This experience includes the writing and execution of verification checks and functional test plans.

Complex: A group of *buildings* interconnected by conditioned spaces on contiguous property.

Conditional compliance: A temporary compliance method used by building owners that demonstrates the owner has implemented energy use reduction strategies required by the standard, but has not demonstrated full compliance with the energy use intensity target.

Conditioned space: An area, room or space that is enclosed within the building's thermal envelope and is directly heated or cooled or is indirectly heated or cooled. Spaces are indirectly heated or cooled

where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling. (also see, semi-heated space).

Covered commercial building: A building where the sum of nonresidential, hotel, motel, and dormitory floor areas exceeds fifty thousand gross square feet, excluding the parking garage area.

Discounted payback: The time when the accumulated savings achieved by an investment, discounted by the appropriate discount rate, equals the initial cost of the investment.

District heating and/or cooling system: Is a system that provides heating or cooling to multiple buildings through a distributed system providing steam, hot water, or cool water to buildings.

Energy use intensity (EUI): A measurement that normalizes a building's site energy use relative to its size. A building's energy use intensity is calculated by dividing the total net energy consumed in one year by the gross floor area of the building, excluding the parking garage. "Energy use intensity" is reported as a value of a thousand British thermal units per square foot per year.

Energy target (EUI_t): Not adopted.

Energy use intensity target (EUI_t): The net energy use intensity of a covered commercial building that has been established for the purposes of complying with the standard.

Gross floor area: The total number of square feet measured between the exterior surfaces of the enclosing fixed walls of a building, including all supporting functions such as offices, lobbies, restrooms, equipment, storage areas, mechanical rooms, break rooms, crawl spaces and elevator shafts. Gross floor area does not include outside bays or docks.

Gross floor area for residential buildings: Not adopted.

Gross floor area for nonresidential buildings: Not adopted.

More recently built buildings: Buildings or additions greater than fifty thousand square feet in conditioned floor area permitted for construction based on the application permit date of July 1, 2016, or later. For example, buildings permitted to the 2015 edition of the Washington State Building Code, chapter 51-50 WAC.

Qualified commissioning authority: Not adopted.

Qualified energy auditor: A person acting as the auditor of record having training, expertise and three years professional experience in building energy auditing and any one of the following:

(a) A licensed professional architect or engineer.

(b) An *energy auditor/assessor/analyst* certified by ASHRAE or the Association of Energy Engineers (AEE) for all *building* types.

Qualified person: A person having training, expertise and three years professional experience in *building* energy-use analysis and any of the following:

(a) A licensed professional architect or engineer in the jurisdiction where the project is located;

(b) A person with Building Operator Certification (BOC) Level II by the Northwest Energy Efficiency Council;

- (c) A certified commissioning professional;
- (d) A qualified energy auditor;
- (e) A certified energy manager (CEM) in current standing, certified by the Association of Energy Engineers (AEE);
- (f) An energy management professional (EMP) certified by the Energy Management Association.

Recommissioning: An application of the commission process requirements to a project that has been delivered using the commissioning process.

Residential building: Not adopted.

Savings-to-investment ratio: The ratio of the total present value savings to the total present value costs of a bundle of an energy or water conservation measure estimated over the projected useful life of each measure. The numerator of the ratio is the present value of net savings in energy or water and nonfuel or nonwater operation and maintenance costs attributable to the proposed energy or water conservation measure. The denominator of the ratio is the present value of the net increase in investment and replacement costs less salvage value attributable to the proposed energy or water conservation measure.

Semi-heated space: An enclosed space within a building, including adjacent connected spaces separated by an uninsulated component (e.g., basements, utility rooms, garages, corridors) which:

- (a) Is heated but not cooled, and has a maximum installed heating system output capacity of 3.4 Btu/(h-ft²) but not greater than 8 Btu/(h-ft²);
- (b) Is not a walk-in or warehouse cooler or freezer space.

Service life: See *useful life*.

Simple payback (years): The estimated initial cost of an EEM divided by the estimated annual cost savings of the measure expressed in years. The cost savings may include energy cost savings and incremental routine operations and maintenance costs or savings.

State equipment standards: Appliance and equipment standards listed in chapter 19.260 RCW, Energy efficiency.

Useful life: Useful life is the expected remaining service life of building systems or equipment. Used interchangeably with *service life*.

Weather normalized: A method for modifying the measured building energy use in a specific weather year to energy use under normal weather conditions.

Weather normalized energy utilization index (WNEUI): Measurement that normalizes a building's site energy use relative to its size based on the buildings weather normalized site energy use. A building's energy use intensity is calculated by dividing the total net weather normalized energy consumed in one year by the gross floor area of the building, excluding the parking garage. Weather normalized energy use intensity is reported as a value of a thousand British thermal units per square foot per year.

3.2 Common abbreviations and acronyms

- AEE** Association of Energy Engineers.
- AHJ** authority having jurisdiction.
- DDC** direct digital control.
- EEM** energy efficiency measure.
- EM** energy manager.

EUI energy-use intensity.
IRR internal rate of return.
LCCA life cycle cost analysis.
O&M operations and maintenance.
WSEC Washington State Energy Code.
WNEUI Weather normalized energy utilization index.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-030, filed 10/30/20, effective 11/30/20.]

WAC 194-50-040 ASHRAE Standard 100, 2018—Section 4—Compliance.

4.1.1.1 A *building* or *complex of buildings* whose majority of gross floor area has activities in Table 7-1 shall comply with the requirements of Sections 4.2 and 4.3.

4.1.1.2 The *qualified person* determining compliance shall:

1. Determine whether or not the *building* seeking compliance has an *energy use intensity target* (EUI_t) according to Section 7;

2. Establish the *energy use intensity target* (EUI_t) according to Section 7;

3. Submit forms as specified in Normative Annex Z to the AHJ.

4.1.2 Residential Building - Not adopted.

4.1.3 Buildings with residential and nonresidential activities - Not adopted.

4.3.2 Buildings with energy targets. Buildings with energy targets must meet all the criteria for developing an energy target in Section 7.2 Determining energy use intensity target (EUI_t) and provide energy use data as specified by Section 5.2 Building energy monitoring. All other buildings shall comply with Section 4.3.3, Buildings without energy targets.

4.3.2.2 Building does not meet the energy use intensity target (EUI_t).

A qualified energy auditor shall complete an energy audit according to Section 8, and EEMs that will reduce energy use to meet the energy target shall be implemented according to Section 9. Upon completion of the implementation of all required EEMs, a building shall be granted conditional compliance.

Exceptions to 4.3.2.2:

1. *More recently built buildings:* For buildings that exceed the target developed in accordance with Section 7.2.1.1, but do not exceed the target developed in accordance with Section 7.2.1, the owner may demonstrate compliance by recommissioning the building using the existing-building commissioning process. The commissioning process consists of the following:

a. A certified commissioning professional shall implement the building commissioning process specified by the most recent edition of the Washington state energy code. The energy code commissioning process shall be modified by the certified commissioning professional for recommissioning purposes as described in ASHRAE Guideline 0.2-2015 Commissioning Process for Existing Systems and Assemblies and ASHRAE Guideline 1.2-2019 Technical Requirements for the Commissioning Process for Existing HVAC&R Systems and Assemblies.

b. Washington state energy code (WSEC) exceptions based on mechanical system or service water heating capacity shall not be applied when developing the scope for commissioning. For example, the 2018 WSEC, Section C408.1 General, the exceptions do not apply.

c. All deficiencies found during the commissioning process shall be resolved including corrections and retesting prior to submitting documentation for compliance or conditional compliance.

d. Building owners may omit capital expenditures identified by the commissioning process that are not cost effective, as documented using the procedures in Normative Annex X.

2. No individual requirement need be met that would compromise the historical integrity of a building or part of a building designated by a government body for long-term preservation in its existing state, such as historical monuments. EEMs that can be implemented without modifying historical parts of the building shall be implemented as required by this standard. Documentation of historic significance must be provided to the AHJ by submitting Form G in accordance with Normative Annex Z.

4.3.2.3 Verification of compliance. Within fifteen months after the completion of Section 4.3.2.2, the weather normalized *EUI* shall be recalculated by the *energy manager (EM)* from twelve consecutive months of measured energy use, and Form A shall be resubmitted to the *AHJ*. If the *building's* post implementation measured *EUI* is less than or equal to the *energy target*, the *building* complies with the standard. If the *building's* post implementation measured *EUI* is greater than the *energy target*, the *building* does not comply with the standard and the *conditional compliance* is suspended until either:

a. Additional EEMs have been implemented that reduce the subsequently measured *EUI* to below the *energy target* and a new Form A is submitted to the *AHJ*; or

b. The *AHJ* revokes conditional compliance.

4.3.3 Buildings without energy targets.

Exception to 4.3.3.2: No individual requirement need be met that would compromise the historical integrity of a *building* or part of a *building* designated by a government body for long-term preservation in its existing state, such as historical monuments. Documentation of historic significance must be provided to the *AHJ* by submitting Form G in accordance with Normative Annex Z.

4.3.3.3 Verification of compliance for buildings with building energy monitoring in compliance with Section 5.2. If the building complies with Section 4.2, then within fifteen months following the completion of implementation of the optimized bundle of EEMs, building owners with conditional compliance or the qualified person representing the building owner shall submit verification that measured post implementation energy savings meet or exceed 75% of the energy savings projected in the energy audit report to the *AHJ*. Energy savings shall be compared at the whole-building consumption level in common units for electricity, fossil fuels, and other sources. If the measured postimplementation energy savings of the package of EEMs do not meet or exceed 75% of the energy savings projected in the energy audit, the conditional compliance is suspended until either:

a. Additional EEMs are implemented that reduce the subsequently measured energy savings of the package of EEMs so that it meets or exceeds 75% of the energy savings projected in the energy audit; or

b. The *AHJ* revokes conditional compliance.

4.3.3.4 Verification of compliance for buildings without building energy monitoring in compliance with Section 5.2. Verification of energy savings using the methods of the International Performance Measurement & Verification Protocol, Concepts and Options for Determining Energy and Water Savings Volume I options A through D. If the measurement and verification protocol identified any outstanding performance issues, they shall be corrected and the verification protocol shall be repeated to assure savings estimated in the original audit are realized.

4.4.1 Administrative requirements. Building owners shall demonstrate compliance with the standard by following the administrative requirements in Normative Annex Z, including:

Z2 Building owner response to notifications.

Washington state reporting requirements for building owners.

Z3 General compliance.

Z4 Documentation of compliance with the standard.

Z5 Violations, assessment of administrative penalties, mitigation and review of penalty decisions.

Z6 Compliance forms.

Z7 Section 7 tables as modified by Washington state.

4.4.2 Alternative energy targets (EUI_t) - Not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-040, filed 10/30/20, effective 11/30/20.]

WAC 194-50-050 ASHRAE Standard 100, 2018—Section 5—Energy management plan.

Exception to 5.1.1 - Not adopted.

5.1.2.1 Energy accounting in accordance with Section 5.2.

5.1.2.2 In the initial year of compliance, the building's weather normalized energy use intensity (WNEUI) and energy-use intensity (EUI).

5.1.2.3 Annual updates of the net energy use, WNEUI and EUI.

5.1.2.4 Annual comparison of the net WNEUI and EUI to the energy target.

5.1.2.5 Documentation of original, current, and changes in number of occupants, weekly operating hours, or time of day scheduled for occupancy, production rates, and energy using equipment that would have caused change in the measured WNEUI and EUI.

5.1.2.14 Operations and Maintenance Plan including:

1. An operations and maintenance (O&M) program as defined in Section 6.

2. An O&M implementation plan as specified in Normative Annex L.

3. Implementation documentation as specified in L2.2.5 Documentation.

5.2.2 Energy-use data for each type of energy imported into and exported from the building shall be collected from utility or energy delivery bills (that must include the quantity of energy or fuel delivered) or by monitoring local energy meters (either utility or owner-provided meters). Owner-provided energy meters shall meet the metering accuracy, tolerances and testing requirements of Title 480 WAC.

5.2.3 Energy conversion factors. The site energy content of different forms of purchased energy shall be converted from the purchased unit to the standard site energy unit using the conversion factors incorporated in Energy Star portfolio manager.

5.2.4 The energy accounting system shall be Energy Star Portfolio Manager as specified in Normative Annex Z.

5.2.4.1 - Not adopted.

5.2.4.2 - Not adopted.

5.2.4.3 - Not adopted.

Table 5-2a Site Energy Conversion Factors - Table not adopted.

Table 5-2b Primary Energy Conversion Factors - Table not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-050, filed 10/30/20, effective 11/30/20.]

WAC 194-50-060 ASHRAE Standard 100, 2018—Section 6—Maintenance and operation.

6.3 Operation and maintenance (O&M) Implementation. The O&M program shall be implemented in accordance with Normative Annex L.

Exception to 6.3: O&M programs developed and implemented by the building's serving utility or local government and approved as equivalent or more stringent by the AHJ may be used as an alternative to the requirement in Section 6.3. Where local government programs are more stringent than applicable utility programs, local government programs shall be selected over utility programs.

6.6.1 When HVAC, domestic hot-water heating, or refrigeration equipment or appliances are replaced, the replacement equipment shall meet the most stringent energy efficiency requirements in the federal equipment standards, state equipment standards, and the applicable building code.

Exception to 6.6.1 - Not adopted.

6.6.2.1 When lighting equipment is replaced, the replacement equipment shall meet the most stringent energy efficiency requirements in the federal equipment standards, state equipment standards and in the applicable building code. Implementation of more efficient equipment shall be evaluated and included as specified for the capital management plan, Section 5.1.2.10.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-060, filed 10/30/20, effective 11/30/20.]

WAC 194-50-070 ASHRAE Standard 100, 2018—Section 7—Energy-use analysis and target requirements.

7.1.1 Building type. Buildings are divided into types or activities as shown in Table 7-1 Normative Annex Z. Building type definitions are based on Energy Star portfolio manager, unless modified by the notes to Table 7-1.

7.1.2 Energy targets - Energy targets for each building type are listed in Table 7.2a, Normative Annex Z.

7.1.3 Building operating shifts normalization factors - Building operating shifts normalization factors for each building type are listed in Table 7-3, Normative Annex Z.

7.2.1 The *qualified person* shall determine the *energy use intensity target* (EUI_t) according to Section 7.2.2 for single-type/activity buildings and Section 7.2.3 for mixed-use building, and shall complete Form B.

Exception to 7.2.1: EUI_t programs developed and implemented by the building's local government and approved as equivalent or more stringent by the AHJ may be used as an alternative to the requirement in Section 7.2.1.

7.2.1.1 Additional target for more recently built buildings: In addition to the requirements of section 7.2.1, more recently built buildings shall create a second EUI_t that is 15% less than the target developed for compliance with section 7.2.1. This shall be the building EUI_t and shall be included on Form B.

7.2.2 *Energy targets* for buildings with a single activity shall be calculated as follows:

$$(EUI_t) = S \times (EUI_{t1})$$

where (EUI_{t1}) is the *building activity energy target* value in Table 7-2a for the appropriate *building activities/types* and climate, and S is the *building operating shifts normalization factor* in Table 7-3.

Exceptions to 7.2.3: The *energy use intensity target* (EUI_t) of a building may be modified using the following exceptions. None of these exceptions may be used to change the total gross floor area as it applies to Normative Annex Z, Z3.1 Compliance schedule.

1. Spaces where more than 75% of the gross floor area has a single *building activity* listed in Table 7-1 shall be reported as a single-use *building* or as a multiuse *building* in accordance with either Section 7.2.2 or Section 7.2.3.

2. Spaces less than 10% of the gross floor area with *building activity* listed in Table 7-1 can combine their floor area with the floor area within the *building* that has a similar *building activity* and similar EUI_t as determined by the *qualified person*.

3. Spaces in *buildings* with multiple activities that are not listed in Table 7-1 and have a total combined area $\Sigma A_{nontarget}$ comprising less than 10% of the *building gross floor area* A_{gross} can be excluded from *building energy target* calculations if the energy use of such space is metered separately and the nontarget spaces comply with Sections 4.1 and 4.2. The *energy target* for the remaining part of the *building* shall be calculated after deducting the unlisted *building type floor area* from the *building gross floor area* ($A_{gross} - \Sigma A_{nontarget}$). Nontarget spaces shall be limited to the floor area occupied by the nontarget activity and shall not include supporting spaces such as corridors, common areas or other space types listed in Table 7-1.

4. Spaces in *buildings* with multiple activities that are not listed in Table 7-1 and have a total combined area $\Sigma A_{nontarget}$ comprising less than 50% of the *building* gross floor area A_{gross} can be excluded from *building energy target* calculations if the energy use of such space is metered separately and the nontarget spaces comply with Sections 4.1, 4.2, 4.3.1, and 4.3.3. The *energy target* for the remaining part of the *building* shall be calculated after deducting the unlisted *building* type floor area from the *building* gross floor area ($A_{gross} - \Sigma A_{nontarget}$). Nontarget spaces shall be limited to the floor area occupied by the nontarget activity and shall not include supporting spaces such as corridors, common areas or other activity types listed in Table 7-1.

7.2.4 Energy targets for vacant and partially vacant buildings.

Exception to Section 7.2.4 Vacant and partially vacant buildings: If the building did not have physical occupancy by owner or tenant for at least fifty percent of the conditioned floor area throughout the consecutive twelve-month period prior to the building compliance date, the building owner may apply for an exemption as specified in Normative Annex Z.

7.2.4.1 The energy target for vacant spaces shall be based on its pre-vacancy activity if the intended use of the building will be unchanged.

7.2.4.2 If the total floor area of a nonheated, noncooled, and nonilluminated vacant part of a building is smaller than 30% of the gross floor area, then it shall be excluded from the gross floor area, and the energy target shall be determined based on the remainder of the building as described in Section 7.2.3. This allowance may not be used to change the total gross floor area as it applies to Normative Annex Z, Z3.1 Compliance schedule.

7.2.4.3 If the vacant part of a *building* is heated and/or cooled and the *building* energy-use data for twelve consecutive month period when the *building* was occupied within two years prior to the compliance date is not available, compliance for this part of the *building* will be determined after it becomes occupied and energy-use data for twelve consecutive months becomes available.

Table 7-1 Commercial and Residential Building Types/Activities

Table 7-1 adopted as modified and published in Section Z7

Table 7-2a Building Activity Site Energy Targets (EUI_{t1}) (I-P Units)

Table 7-2a adopted as modified and published in Section Z7

Table 7-2a Building Activity Site Energy Targets (EUI_{t1}) (SI Units) - Not adopted

Table 7-2b Building Activity Source Energy Targets (EUI_{t1}) (I-P Units) - Not adopted

Table 7-2b Building Activity Source Energy Targets (EUI_{t1}) (SI Units) - Not adopted

Table 7-2c Building Activity Electricity Site Energy Use Targets (ELUI_{t1}) (I-P Units) - Not adopted

Table 7-2c Building Activity Electricity Site Energy Use Targets (ELUI_{t1}) (SI Units) - Not adopted

Table 7-2d Building Activity Fossil Fuel Site Energy Use Targets (FEUI_{t1}) (I-P Units) - Not adopted

Table 7-2d Building Activity Fossil Fuel Site Energy Use Targets (FEUIt1) (SI Units) - Not adopted
Table 7-3 Building Operating Shifts Normalization Factor
Table 7-3 adopted as modified in Section Z7.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-070, filed 10/30/20, effective 11/30/20.]

WAC 194-50-080 ASHRAE Standard 100, 2018—Section 8—Audits.

8.1 The *qualified energy auditor* shall complete Form D and submit to the *authority having jurisdiction (AHJ)*. If an energy audit is required within this section, a copy of the audit summary results shall be included in the compliance documentation in a format specified in Normative Annex Z. Compliance with this standard shall be achieved by adopting *energy efficiency measures (EEMs)* that collectively will reduce annual *building* energy use.

8.2 Energy audit requirements for buildings without energy targets.

8.2.1 Overall process. An energy audit shall be conducted for all *buildings* not having an *energy target*. The energy audit and the associated energy audit report shall be completed by a *qualified energy auditor* practicing within their field of competency. The energy audit shall be a Level 2 audit (as defined in Section 8.4.2).

Exception to 8.2.1: Buildings that have completed an energy audit within the previous three years may use the results of the previous audit, provided that the scope of the energy audit meets the requirements of this section and that there have been minimal changes to the systems within the audit scope. The energy audit must be evaluated consistent with the investment criteria in Normative Annex X.

8.2.2 The scope of the energy audit shall include the following required end uses as applicable to the *building*:

- Envelope;
- Lighting;
- Cooling;
- Heating;
- Ventilation and exhaust systems;
- Air distribution systems;
- Heating, chilled, condenser, and domestic water systems;
- Refrigeration except for food processing refrigeration;
- Power generation equipment;
- Uninterruptible power supplies and power distribution units;
- People-moving systems;
- The scope of the energy audit may include *campus district heating and/or cooling systems* when the *campus district heating and/or cooling system* serves the building being audited.

8.3.2 Buildings that do not meet their energy targets overall process. An energy audit shall be conducted, and an associated energy audit report shall be provided, for all *buildings* that do not meet their *energy target*. The energy audit shall be completed by a *qualified energy auditor* practicing within their field of competency. The energy audit shall be at an audit level specified by the *qualified energy auditor* to be sufficient to identify and evaluate the *EEMs* that, if implemented, would result in the *building* meeting its *energy target*. The

qualified energy auditor may refer to the list of potential *EEMS* in Informative Annex E.

After the completion of the audit and the selection of *EEMS* to be implemented, the applicant must calculate an adjusted energy-use intensity (*EUI*) for the *building* based on the estimated energy savings from the selected *EEMS* and the historical energy use of the *building*. This adjusted *EUI* is then compared to the *energy target* for the *building*. If the adjusted *EUI* is less than the *energy target*, the applicant shall proceed with implementation as specified in Section 9. If the adjusted *EUI* is greater than the *energy target*, a more rigorous energy audit investigation is required to identify additional *EEMS*. This process is repeated until the *building's* adjusted *EUI* is less than its *energy target*.

Calculation of the adjusted *EUI* is shown in the following equation:

$$EUI_{adj} = (\text{Energy}_{hist} - \text{Energy}_{saved}) / \text{GFA}$$

Where:

Energy_{hist} = Historical annual energy use, kBtu

Energy_{saved} = Estimated annual energy savings, kBtu

GFA = Gross floor area, ft²

Following the completion of an energy audit that has identified *EEMS* sufficient to meet the *building's energy target*, the applicant shall implement those *EEMS* per the requirements of Section 9.

8.4.1 Level 1 Audit. Buildings shall perform a Level 1 audit (walk-through analysis) as defined in ANSI/ASHRAE/ACCA Standard 211-2018 Standard for Commercial Building Energy Audits, Section 5.3¹².

8.4.2 Level 2 Audit. Buildings shall perform a Level 2 Audit (energy survey and engineering analysis) as defined in ANSI/ASHRAE/ACCA Standard 211-2018 Standard for Commercial Building Energy Audits, Section 5.4¹².

8.5.1 Audit results. The energy audit report shall define the actions necessary for the *building owner* to achieve the energy and cost savings that are recommended in the report.

Energy audit results shall be presented in a summary table that includes, at a minimum, an estimate of each of the following:

- A list of recommended *EEMS* that, if implemented, will either meet the *energy target* for the *building* if it has a target or, if it does not have an *energy target*, will meet the economic criteria set by the standard in Section 9.

- The estimated energy savings and peak demand savings associated with each recommended *EEM*, expressed in the cost units used on the *building owner's* energy bills, and the units used for comparison with the *energy target*.

- The estimated (modeled) *energy cost* savings associated with each recommended *EEM*.

- The estimated cost of implementation for each recommended *EEM*. The costs of implementation shall include the required monitoring of energy savings per the requirements of Section 9.

The economic evaluation of measures are required by Normative Annex X.

8.5.2 Interactive effects. Energy savings analysis shall include interactive effects of all selected EEMs. When considering multiple EEMs with interactive effects, the order of analysis shall start with load reduction measures and proceed through distribution systems and associated equipment efficiencies and then plant and heat-rejection systems. Any interactive effects on equipment sizing and part load performance of equipment shall be accounted for due to reduced loads on subsequent systems.

8.5.4.1 Nonfederal facilities. The minimum financial criteria required for reporting is specified in Normative Annex X.

8.5.4.2 U.S. Federal Facilities - Not adopted.

8.5.5 End-use analysis. The energy audit shall include an end-use analysis that compares the estimated energy use of the facility after implementation of all selected *EEMs* to historical utility consumption. The intent of this requirement is to ensure that estimates of the base-case end-use energy estimates and potential energy-savings estimates in the energy audit report are reasonable.

8.5.5.2 Requirements for Level 2 Audits. The *energy auditor* is required to estimate the energy use of all end uses that individually comprise more than 5% of total historical *building* energy use. The energy estimates for these end uses shall be summed and compared to historical energy consumption for the facility. The sum of the base-case end-use energy estimates must be between 90% and 100% of the historical energy use at the site.

This comparison shall be conducted separately for each fuel type, such as electricity, natural gas, or fuel oil, for which *EEMs* are identified. On-site energy sources such as solar, photovoltaic, geothermal, and wind shall be included.

Correction for historical weather for the base year versus average weather used in *baseline* estimates may be used.

The same energy-use estimates that comprise the end-use analysis shall also be used as the basis for energy savings calculations. The *qualified energy auditor* shall verify that each *EEM* savings estimate is reasonable in comparison to the historical energy consumption of that end use based on energy consumption survey data or experience with similar sites.

The *qualified energy auditor* shall verify that the combined savings from multiple *EEMs* shall take into account *interactive effects* among measures.

Miscellaneous plug loads may be estimated on average equipment power density and *building* area. (See Form D in Normative Annex Z.)

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-080, filed 10/30/20, effective 11/30/20.]

WAC 194-50-090 ASHRAE Standard 100, 2018—Section 9—Requirements.

9.1.1 Requirements. *Buildings* that have an *energy target* shall comply with the requirements of Section 9.1.1.1. *Buildings* that do not have an *energy target* shall comply with the requirements of Section 9.1.1.2. All *buildings* shall implement an energy management plan as described in Section 5. The energy management plan shall be integrated

into the *building's capital management plan* as described in Section 5. The energy management plan shall include the elements listed in Section 5.

9.1.1.1 Buildings with energy targets. For buildings having energy targets, energy efficiency measures (EEMs) identified from the energy audit shall be implemented in order to meet the building's energy target. Develop a written plan for maintaining the building's energy-use intensity (EUI) at or below the energy target.

Exceptions to Section 9.1.1.1:

1. Buildings may demonstrate compliance by implementing all of the EEM's that achieve the investment criteria in Normative Annex X.

2. Implementation of *EEMs to campus district heating and/or cooling system(s)* in lieu of *EEMs* implemented directly to campus buildings is acceptable provided the energy audit demonstrates the energy savings from the *campus district heating and/or cooling system EEMs* will be greater than the *EEMs* identified for the buildings. Energy savings shall be measured as a reduction in Btu per year.

9.1.1.2 Buildings without energy targets. Buildings that do not have an *energy target* shall implement all of the *EEMs* that achieve the investment criteria in Normative Annex X.

Exception to 9.1.1.2: Implementation of *EEMs to campus district heating and/or cooling system(s)* in lieu of *EEMs* implemented directly to campus buildings is acceptable provided the energy audit demonstrates the energy savings from the *campus district heating and/or cooling system EEMs* will be greater than the *EEMs* identified for the buildings. Energy savings shall be measured as a reduction in Btu per year.

9.1.1.2.1 - Not adopted.

9.1.1.2.2 - Not adopted.

9.1.2.1 Training of Building Staff. An ongoing written training plan shall be implemented. *Building* occupants and staff shall be trained, at a minimum, as established by the operations and maintenance (O&M) program defined in Section 6.

9.1.2.3 Implementation and commissioning of EEMs. *EEMs* shall be implemented and commissioned in accordance with the Washington State Energy Code. Washington state energy code (WSEC) exceptions based on mechanical system or service water heating capacity shall not be applied when developing the scope for commissioning. For example, the 2018 WSEC, Section C408.1 General, the exceptions do not apply. The *qualified energy auditor* or *qualified person* shall review the commissioning report and certify that the *EEMs* are functioning as intended.

Informative Note: For guidance on commissioning protocols, refer to ASHRAE Guideline 0.2-2015 Commissioning Process for Existing Systems and Assemblies and ASHRAE Guideline 1.2-2019 Technical Requirements for the Commissioning Process for Existing HVAC&R Systems and Assemblies.

9.1.2.4 Energy efficiency sequencing. Implementation of *EEMs* shall be prioritized to take advantage of the life cycle of *building* systems and to minimize the disruption of *building* occupants. Delayed implementation shall be evaluated using the methodology included in Normative Appendix X and reported in the energy management plan.

9.2.2 Verification of implemented EEMs for Buildings without Energy Targets. Upon implementation of *EEMs*, the affected end-use systems shall be monitored for one year to verify *EEM* energy savings. The *qualified energy auditor* or *qualified person* shall review the results of the *EEM* energy monitoring and certify that the energy savings of the package of *EEMs* meets or exceeds 75% of the energy savings projected in the energy audit as required. For *buildings* unable to meet the requirements of Section 5.2 Building energy monitoring, the *qualified energy auditor* or *qualified person* shall provide verification using the methods of the *International Performance Measurement & Verification Protocol, Concepts and Options for Determining Energy and Water Savings Volume I*¹¹ options A through D.

9.3 Compliance. The *qualified person* shall complete the compliance documentation as required in Normative Annex Z.

ASHRAE Standard 100, 2018—Section 10 - Not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-090, filed 10/30/20, effective 11/30/20.]

WAC 194-50-110 ASHRAE Standard 100, 2018—Section 11—References.

1. ASHRAE. 2010. *Performance Measurement Protocols for Commercial Buildings*. Atlanta: ASHRAE.
2. ASHRAE. 2013. ANSI/ASHRAE/IES Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*. Atlanta: ASHRAE.
3. ASHRAE. 2007. ANSI/ASHRAE Standard 90.2, *Energy-Efficient Design of Low-Rise Residential Buildings*. Atlanta: ASHRAE.
4. IES. 2011. *Lighting Handbook*, 10th Edition. New York: Illuminating Engineering Society.
5. ASHRAE. 2011. *Procedures for Commercial Building Energy Audits*, 2nd Edition. Atlanta: ASHRAE.
6. ACCA. 2007. ANSI/ACCA Standard 4, *Maintenance of Residential HVAC Systems*. Arlington, VA: Air Conditioning Contractors of America.
7. AHRI. 2009. AHRI Guideline X, *Induced Draft Furnace Heat Exchanger Inspection*. Arlington, VA: Air Conditioning, Heating and Refrigeration Institute.
8. ASHRAE. 2013. ANSI/ASHRAE Standard 55, *Thermal Environmental Conditions for Human Occupancy*. Atlanta: ASHRAE.
9. ASHRAE. 2013. ANSI/ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*. Atlanta: ASHRAE.
10. IEA. 2009. IEA ECBCS Annex 46: Energy Process Assessment Protocol. International Energy Agency, Paris, France.
11. International Performance Measurement & Verification Protocol Concepts and Options for Determining Energy and Water Savings Volume I Revised March 2002 DOE/GO-102002-1554. International Performance Measurement & Verification Protocol Committee. www.ipmvp.org
12. ANSI/ASHRAE/ACCA Standard 211-2018 *Standard for Commercial Building Energy Audits*, Section 5.3.
13. ASHRAE Guideline 0.2-2015 *Commissioning Process for Existing Systems and Assemblies*.
14. ASHRAE Guideline 1.2-2018 *Technical Requirements for the Commissioning Process for Existing HVAC&R Systems and Assemblies*.

Normative Annex A - Not adopted.

Informative Annex B - Not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-110, filed 10/30/20, effective 11/30/20.]

WAC 194-50-120 Normative Annex C Forms. For Washington State Compliance Normative Annex C forms adopted as modified and published in Normative Annex Z, Section Z7.

Informative Annex F Standard 100 Compliance Flow Chart - Not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-120, filed 10/30/20, effective 11/30/20.]

WAC 194-50-130 Normative Annex L—Operations and maintenance implementation.

L2 Operations and maintenance program.

Each *building* system shall have an O&M program that, at a minimum, preserves the condition of the system and its elements in a manner that enables the system to provide the intended thermal and visual comfort, energy efficiency, and helps to achieve the intended indoor environmental quality required for the *building*.

At a minimum, the O&M program shall contain an inventory of equipment, systems and controls to be inspected and maintained and a maintenance plan describing the goals, objectives, and execution of the systems maintenance program.

L2.2.3 Inspection and maintenance tasks. Inspection and maintenance tasks for inventoried equipment, systems and controls shall be established. Inspection shall include the physical assessment of system components and may include measurement of operating parameters and data provided by sensors or a *building* management system (BMS). Maintenance tasks shall include adjustment, service, or replacement of inventoried equipment and systems. Control systems settings including, but not limited to, set points, schedules, and sequence of operations shall be inspected and maintained.

L2.2.4 Inspection and maintenance task frequencies. Frequency of inspection and maintenance tasks for inventoried equipment, systems, and controls shall be established. If unacceptable condition indicators or unacceptable performance is found during two consecutive inspections, the owner or owner's designated representative shall investigate and analyze possible causes. At a minimum, the following possible causes shall be investigated:

- *Poor field practices.* Review inspection documentation and/or technician execution to ensure maintenance tasks are performed correctly.

- *Insufficient time budgeted for tasks.* Review time budgeted to the technician to ensure that reasonable time has been given to perform the tasks.

- *Component repairs noted/pending/not made.* Inspect documentation to determine that repair or component replacement has been undertaken.
- *Design issues.* Determine whether underlying design issues are causing successive failures.
- *Obsolete equipment or components.* Determine whether the equipment or component has been in service beyond its useful life.
- *Conditions outside of the building system causing failure.* Investigate whether water leaks, vandalism, a problem in the *building envelope*, a problem with the power supplied to the *building*, or some other external factor is causing the problem.

Based on the analysis, the inspection frequency or the maintenance task shall be modified to resolve the deficiency.

If acceptable condition indicators or acceptable performance is found during three successive inspections, the inspection frequency for that task may be reduced from the existing frequency. The reduced frequency shall be based on the specific findings and shall be documented.

Frequency may be adjusted for climate related or operational reasons. Each adjusted frequency shall be documented, including the reason for the adjustment.

Informative Note: Examples include the following:

- **Cooling tower shutdown during the winter.** Inspection and maintenance may be suspended during the shutdown period.
- **A new chiller is installed and the old chiller is retained as a backup.** Inspection and maintenance of the backup unit may be adjusted to reflect fewer operating hours.
- **A new lighting fixture and lamp is installed with a much longer life expectancy.** Inspection and *lamp* replacement frequency may be extended to reflect the new device.

L2.2.5 Documentation. A minimum inspection and maintenance documentation package shall consist of the following items:

1. Listings of *building* systems and system components with associated performance criteria pertinent to the facility.
2. Inspection and maintenance tasks and the method of tracking (automated or manual).
3. Identify building systems or components operating beyond their useful life.
4. Sufficient record detail and verification (written or electronic) to demonstrate implementation of the maintenance plan.

The inspection and maintenance document directory shall provide easy access and be well organized and clearly identified. Emergency information shall be immediately available and shall include emergency staff and/or agency notification procedures.

Informative Annex M Guidance on Building Type Definitions - Not adopted.

Informative Annex N Addenda Description Information - Not adopted.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-130, filed 10/30/20, effective 11/30/20.]

WAC 194-50-140 Normative Annex X—Investment criteria.

X1 Demonstrating compliance with the investment criteria. Buildings seeking compliance using the exception to Section 9.1.1.1 or 9.1.1.2 shall demonstrate compliance with the financial investment criteria of this annex. The investment criteria shall be documented using a level 2 energy audit and by performing the life cycle cost analysis (LCCA) as per X2.2.

X1.1 General guidance on cost and benefits for the base case and alternative case.

The life cycle cost analysis is a process which compares the base case of the existing building to the alternative case that implements EEMs proposed by the energy audit. Total life cycle cost of each case are produced by the analysis, but the resulting cost and benefits of interest are the incremental life cycle cost difference between each case. Measures and bundles of measures demonstrating positive life cycle cost compared to the base case are to be implemented in accordance with chapter 9.

The base case will include all costs for energy, operations and maintenance and other related cost scheduled in the analysis period. This may include replacement of existing equipment upon failure with code compliant equipment. All these costs are captured in the base case.

The alternate case captures all cost and benefits associated with implementing additional efficiency features. All costs and all benefits of implementing EEMs required by Section 9 should be captured by the analysis. All documented costs may be considered.

Extended implementation periods are allowed by this standard. This allows more EEMs to be considered at time of failure resulting in much of the cost of implementation being attributed to the base case. This requires including the implementation timing of the measure in the extended compliance period. Ultimately, this reduces the cost of the alternative case and will likely make EEMs that are not cost effective as an early replacement be cost effective as replacement upgrades.

X2 Energy audits and investment criteria pathway.

X2.1 Buildings qualifying under the investment criteria must complete a LCCA and implement an optimized bundle of energy efficiency measures that provide maximum energy savings without resulting in a savings-to-investment ratio of less than one.

Exception: Building owners may demonstrate compliance with this section by completing the Level 2 energy audit and implementing all EEMs determined to have a simple payback that is less than the EEMs expected useful life.

X2.2 The procedures for developing the investment criteria shall be based on ANSI/ASHRAE/ACCA Standard 211 Section 5.5.2 and Section 5.5.3 Life-Cycle Cost Analysis (LCCA) as modified by section X2. The LCCA shall also follow, and consider the findings of, the Level 2 Audit as defined by ANSI/ASHRAE/ACCA Standard 211 Section 5.4.

X2.3 Investment criteria chronological process.

X2.3.1 Level 2 audit. Evaluate a comprehensive list of individual EEMs using simple payback as a screening criteria. Individual EEMs determined to have a simple payback that is greater than the EEMs useful life may be excluded from further consideration.

X2.3.2 Life cycle cost assessment. Identify an optimized bundle of EEMs that provides maximum energy savings without resulting in a savings-to-investment ratio of less than one. The optimized bundle of

measures shall be implemented based on the schedule established within the energy management plan.

X2.3.2.1 Life cycle cost assessment on individual measures. Individual measures that do not meet the life cycle cost test may be excluded from the implementation plan if they are not integral to the implementation of other cost effective measures in the bundle.

X2.3.2.2 Phased implementation. The LCCA and energy management plan may include phased implementation such that the building owner is not required to replace a system or equipment before the end of the system's or equipment's useful life.

X3 Included LCCA costs and savings.

X3.1 The costs and savings to be included within the life cycle cost analysis shall be based on ANSI/ASHRAE/ACCA Standard 211 Sections 5.4.8.1, 5.5.2 and 5.5.3 as modified by the following:

X3.1.1 Cost for implementation of EEM, as required by Section 9.

Estimate EEM Costs (based on Standard 211 Sections 5.4.8).

Estimate the total expected cost of implementation for each practical measure. Cost estimates shall include the following factors, as applicable:

1. Material costs;
2. Labor costs, contracted or executed by employees;
3. Design fees;
4. Construction management, contracted or executed by employees;
5. Site-specific installation factors;
6. Permits;
7. Temporary services;
8. Testing, adjusting, and balancing;
9. Utility service upgrades;
10. Verification, as required in Section 9.2.2 only;
11. Commissioning;
12. Taxes;
13. Profit;
14. Any additional adjustments that significantly impact the cost estimate of the EEM.

Informative Note: Multiple measures affecting the same building systems or end uses may be combined and their costs estimated as a group. Combining costs may improve the cost effectiveness of combined measures.

Hazardous material abatement (based on standard 211, 5.4.8.2). Estimation of hazardous material abatement costs is not required. If the possible presence of hazardous materials is apparent at the site, either through observation or as reported by others, the possible presence of the hazardous material shall be included in the report (see Standard 211 Section 6.2.5) as potentially affecting health and safety and installation costs.

Cost and cost savings of recommended EEMs (based on standard 211 Section 5.5.2).

Estimate the initial and recurring costs, energy cost savings, and nonenergy cost savings of each measure and each integrated group of measures. Cost estimates shall either be:

1. Obtained from a vendor at the quoted price; or

- 2. Based on quotations of similar projects within the last year;
- or
- 3. Based on labor cost estimates for employee labor.

Life-cycle cost analysis (LCCA) (based on standard 211 section 5.5.2). LCCA 7,8,9,10 of each recommended EEM shall be conducted for a time frame that spans, at a minimum, the life of the measure with the longest service useful life and shall include the following:

- 1. Initial costs (per Standard 211 Section 5.4.8.1);
- 2. Financing costs;
- 3. Annual energy costs;
- 4. Escalation rates as published by the AHJ citing the source within the energy audit report;
- 5. Discount rates as published by the AHJ citing the source within the energy audit report;
- 6. Tax credits and deductions;
- 7. Cash incentives, grants, and rebates;
- 8. Expected periodic replacements;
- 9. Estimated recurring nonenergy costs (maintenance, etc.), of each measure or set of measures. Such costs include annual maintenance and service labor costs, routine replacement of worn parts, or annual warranty fees from manufacturers;
- 10. Contingency funds not to exceed 5% of estimated EEM implementation cost; and
- 11. Water & sewer savings from EEM. EEMs that provide water and/or wastewater savings shall include the operations and maintenance savings resulting from implementation of the EEM.

X4 Life cycle cost analysis methodology, form and key variables.

X4.1 Life-cycle cost analysis completed for buildings qualifying under the investment Criteria shall follow the *National Institute of Standards and Technology (NIST) Life-Cycle Costing Manual Handbook 135* except as specified in this standard in Table X4.

Table X4 Life Cycle Cost Analysis Variables Independent Of NIST Handbook - 135 Methodology.

Public owner discount rate	A fixed annual rate based on the cost of borrowing through the Washington state treasurer, certificate of participation programs, the local program and the state lease-purchase program.
Private owner discount rate	Shall be the published <i>Wall Street Journal Prime Rate</i> for based on the average of the previous twelve months.
Financing	Applicants with documented costs of borrowing assuming one hundred percent of the EEM implementation costs are financed at an actual cost of borrowing and stated terms when the property being improved is listed as loan collateral.
Rate of inflation	A fixed annual rate, as published annually by the Washington state office of financial management.
Fuel escalation rate	Based on the most recent edition of <i>NIST Handbook - 135 Annual Supplement - Fuel Escalation Rates</i> .
Study period	Equal to the useful life of the longest-lived EEM within an optimized bundle. (STD 211, 5.5.3)

X4.2 Publication of analysis variables. The AHJ shall on an annual basis publish the public owner discount rate, private owner discount rate, rate of inflation and fuel escalation rates on the agency website.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-140, filed 10/30/20, effective 11/30/20.]

WAC 194-50-150 Normative Annex Z—Washington state reporting requirements.

Z1 Building owner notifications by the AHJ.

Z1.1 Notification to building owners of covered commercial buildings by the AHJ. Based on records obtained from each county assessor and other available information sources, the AHJ must create a database of covered commercial buildings and building owners required to comply with the standard established in accordance with this section. The database may include buildings and building complexes presumed to meet the definition of covered commercial building and multifamily buildings greater than 50,000 square feet in floor area.

Z1.1.1 The database will contain information about buildings that may be subject to compliance, their owners, and information about multifamily residential buildings eligible for incentives. The database will also contain information to assist tracking and reporting on building owner compliance, and incentive application and distribution. Commerce will create a method for tracking building owner notification responses. Each building or building complex will be assigned a unique building identifier.

Z1.2 By July 1, 2021, the AHJ must provide the owners of covered commercial buildings with notification of compliance requirements. Notifications will be mailed to the mailing addresses county assessors have on file.

Z1.3 Failure by the AHJ to provide the notification in Z1.2 does not release the building owner of the legal obligation to comply with this law.

Z1.4 By July 1, 2021, the AHJ must provide notifications to the building owners of multifamily residential building where the floor area exceeds fifty thousand gross square feet, excluding the parking garage area.

Z2 Building owner response to notifications.

Z2.1 Correction of errors. Building owners are responsible for reviewing the property and building information provided by the AHJ through notification including, but not limited to, building or building complex ownership details, gross floor area, and other information as identified by the building owner.

Z2.1.1 Correction of errors documentation form. Building owners who are notified in error may submit a correction form to the AHJ. The correction form will be used to document gross floor area (conditioned and unconditioned) and/or building type. Building owners that submit the correction form must also submit the documentation required to demonstrate an exception as required in Section Z4.1 prior to the compliance date if applicable.

Washington State Reporting Requirements for Building Owners.

Z3 General compliance. The building owner of a covered commercial building must report compliance with the standard to the AHJ in ac-

cordance with the compliance schedule established under Section Z3.1 and every five years thereafter. For each reporting date, the building owner must submit documentation to demonstrate that:

1. The weather normalized energy use intensity of the *covered commercial building* measured in a period not to exceed two years prior to the compliance deadline specified in Normative Annex Z3.1 is less than or equal to the energy use intensity target (buildings that meet their energy targets); or

2. The *covered commercial building* has received conditional compliance from the department based on energy efficiency actions prescribed by the standard; or

3. The *covered commercial building* is exempt from the standard by demonstrating that the building meets one of the criteria for an exemption.

Z3.1 Compliance schedule. The building owner of a covered commercial building must report the building owner's compliance with the standard to the department in accordance with the appropriate initial compliance date as follows and every five years thereafter.

1. For a building with more than two hundred twenty thousand gross square feet, June 1, 2026;

2. For a building with more than ninety thousand gross square feet but less than two hundred twenty thousand and one gross square feet, June 1, 2027; and

3. For a building with more than fifty thousand gross square feet but less than ninety thousand and one square feet, June 1, 2028.

Z3.1.1 Early compliance option. Building owners may submit for compliance to the AHJ beginning July 1, 2023. The weather normalized energy use intensity of the covered commercial building shall be measured in a period not to exceed two years prior to the submission of compliance documentation. This section expires June 1, 2028.

Z3.1.2 Application for conditional compliance. Applications for conditional compliance must be submitted to the AHJ one hundred eighty days prior to the compliance date to receive conditional compliance approval prior to the compliance date.

Z3.1.3 Application for exemption. Building owners submitting an application for exemption as specified in Section Z4.1 must be submitted to the AHJ one hundred eighty days prior to the compliance date to receive exemption approval prior to the compliance date.

Z4 Documentation of compliance with the standard. Documentation of compliance shall be submitted to the AHJ demonstrating the building owner has complied with the standard through submission of documentation in accordance with Section Z4.1, Z4.2, Z4.3, Z4.4 or Z4.5. Additional requirements for continued reporting may be required as specified in Z4.6.

Z4.1 Documentation of compliance through exemption. Building owners seeking approval of exemption shall submit to the AHJ the Z6.7 Form H, Application for exemption certificate documenting the following:

1. The building qualifies for one of the following exemptions:

- a. Compliance with the exemption must be verified by the owner based on the building as it is to be occupied and operating on the compliance date;

- b. Applications for exemptions may be submitted no sooner than 1 year prior to the compliance date and submitted to the AHJ no later than one hundred eighty days prior to the compliance date;

c. Exemptions certificates are only valid for the current compliance review cycle.

2. Covered commercial buildings are not eligible for exemption from the standards unless they meet one of the following criteria:

a. The building did not have a certificate of occupancy or temporary certificate of occupancy for a consecutive twelve months period within two years prior to the compliance date;

b. The building did not have physical occupancy by owner or tenant for at least fifty percent of the *conditioned floor area* throughout the consecutive twelve month period prior to the building compliance date;

c. The sum of the *building's gross floor area* minus *unconditioned and semi-conditioned spaces*, as defined in the Washington State Energy Code, is less than fifty thousand square feet;

d. More than 50% of the gross floor area of the building is primarily used for manufacturing or other industrial purposes, as defined under the following use designations of the Washington state edition of the *International Building Code*:

i. Factory group F; or

ii. High hazard group H.

e. The building is an agricultural structure;

f. The building is pending demolition; or

g. The building meets at least one of the following conditions of financial hardship:

i. The building had arrears of property taxes or water or wastewater charges that resulted in the building's inclusion, within the prior two years, on a city's or county's annual tax lien sale list;

ii. The building has a court appointed receiver in control of the asset due to financial distress;

iii. The building is owned by a financial institution through default by a borrower;

iv. The building has been acquired by a deed in lieu of foreclosure within the previous twenty-four months;

v. The building has a senior mortgage subject to a notice of default;

vi. The building owner has an immediate and heavy financial need which cannot be satisfied from other reasonable available resources and which are caused by events that are beyond their control.

3. After documents have been submitted and reviewed, the AHJ will send notification of approval or denial.

a. If the exemption is approved the AHJ shall notify the applicant stating the application has been approved and update the AHJ records for the building.

b. If the exemption is denied the AHJ shall notify the applicant stating the application has been denied and update the AHJ records for the building.

4. When an application for exemption is denied the building owner must proceed with the process to demonstrate compliance with one of the compliance options in Washington state reporting requirements for building owners, Z4.2-Z4.5.

Z4.2 Buildings that meet the EUI_t . *Building owners* must provide the following documentation to verify that the building *weather normalized* EUI is less than the building EUI_t and that the energy management plan is complete and being implemented.

- Form A;
- Form B;

- Form C.

Z4.3 Buildings that will meet the building investment criteria prior to the compliance date. Building owners must provide the following documentation to verify that the building has implemented all EEMs that meet the cost effectiveness criteria resulting from the energy audit and economic evaluation criteria from Normative Annex X. The energy management plan must be completed and implemented and all EEMs must be installed and commissioned prior to the compliance date.

- Form A;
- Form B;
- Form C, except buildings unable to meet Section 5.2, Building energy monitoring;
- Energy audit report:
 - Level 2 energy audit;
 - Normative Annex X - Investment Criteria Form.

Z4.4 Buildings that will meet the EUI_t through conditional compliance. Building owners must provide the following documentation to verify that the building *weather normalized* EUI_t is projected to be less than the building EUI_t at the end of the measurement and verification period and that the energy management plan is complete and being implemented. EEMs required to meet the EUI_t must be installed and commissioned prior to the compliance date. Verification and completion shall be documented as required in Section Z4.6.

- Form A;
- Form B;
- Form C;
- Energy audit report:
 - Level 2 Energy Audit.
- Continued reporting until completion as specified in Section Z4.6.

Z4.5 Buildings that will meet the building investment criteria through conditional compliance. Building owners must provide the following documentation to verify that the building has implemented all EEMs that meet the cost effectiveness criteria resulting from the energy audit and economic evaluation criteria from Normative Annex X. The energy management plan must be completed and implemented and all EEMs must be installed and commissioned prior to the compliance date. Verification and completion shall be documented as required in Section Z4.6.

- Form A;
- Form B;
- Form C, except buildings unable to meet Section 5.2 Building Energy Monitoring;
- Energy audit report:
 - Level 2 energy audit;
 - Normative Annex X - Investment Criteria Form.
- Continued reporting until completion as specified in Section Z4.6.

Z4.5.1 Phased implementation. The building owner may include phased implementation of EEMs such that the *building owner* is not required to replace a system or equipment before the end of the system or equipment's useful life. System or equipment fitting this description shall be included in the energy audit and Normative Annex X - Investment Criteria submission with a schedule for replacement. Phased im-

plementation shall be documented in the *energy management plan* and *capital management plan* required in Section 5.

Z4.6 Continued reporting until completion. Continued reporting is required as specified in Sections Z4.6.1 and Z4.6.2 until completion when: a) measurement and verification extends one year or more beyond the compliance date, or b) implementation is extended phased implementation.

Z4.6.1 Annual reporting. The following up to date reports shall be submitted to the AHJ annually, (date specific).

- Form A;
- Form B;
- Form C, except buildings unable to meet Section 5.2, Building energy.

Z4.6.2 Completion Reporting. The following up to date reports shall be submitted to the AHJ when all conditions of compliance have been verified and documented:

- Form A;
- Form B;
- Form C, except buildings unable to meet Section 5.2, Building energy monitoring. Buildings unable to meet Section 5.2 shall include the verification specified in Section 9.2.2 in the *building energy management plan*.

Z5 Violations, assessment of administrative penalties, mitigation and review of penalty decisions.

Z5.1 Authorization. The AHJ is authorized to impose administrative penalties upon building owners for failing to submit documentation demonstrating compliance with the requirements of this standard.

Failure to submit documentation demonstrating compliance by the scheduled reporting date will result in progressive penalties by legal notice.

Z5.2 Notice of violation and opportunity to correct (NOVC) (first notice).

Z5.2.1 The department may issue a NOVC when a building owner has failed to submit documentation that demonstrates compliance with this standard by the scheduled reporting date.

Z5.2.2 A NOVC may be issued for any of the following reasons:

1. Failure to submit a compliance report in the form and manner prescribed by the AHJ;
2. Failure to meet an energy use intensity target or failure to receive conditional compliance approval;
3. Failure to provide accurate reporting consistent with the requirements of the standard; and
4. Failure to provide a valid exemption certificate.

The AHJ will identify in the NOVC which section(s) of law, code, or the standard for which the *building owner* has failed to demonstrate compliance.

Z5.2.3 The NOVC will specify the time by which the building owner must cure the violation by submitting documentation that demonstrates compliance with the identified section(s) of law, code, or the standard. The AHJ will give the building owner at least seven calendar days to submit such documentation.

Z5.2.4 If sufficient documentation is not submitted by the date specified in the NOVC, the AHJ will issue a notice of violation and intent to assess administrative penalties (NOVI) and the *building owner* will be subject to administrative penalties.

Z5.3 Notice of violation and intent to assess administrative penalties (NOVI) (second notice).

Z5.3.1 If a *building owner* fails to respond to a NOVC by submitting documentation demonstrating compliance by the date specified in the NOVC, the AHJ will issue a NOVI.

Z5.3.2 The AHJ will identify in the NOVI which section(s) of law, code, or the standard for which the building owner has failed to demonstrate compliance. The NOVI will also include a description of how the penalties the AHJ intends to assess will be calculated.

Building owners must respond to a NOVI within thirty days by either:

1. Submitting an application for exemption in accordance with Section Z4.1 if applicable;
2. Submitting a noncompliance mitigation plan in accordance with Z5.7;
3. Submitting its intent to pay the penalties by using the form provided by the AHJ; or
4. Submitting a request for an administrative proceeding to challenge or mitigate the penalty.

Z5.3.3 If the *building owner* does not timely request a hearing or submit an application for exemption, the *building owner* waives its right to a hearing and the director or their designee may issue a final order assessing the penalties described in the NOVI. If the *building owner* has submitted a mitigation plan, the final order will only assess penalties from the scheduled compliance date until the date of an approval of compliance or conditional compliance.

Z5.3.4 Building owners who submit an application for exemption that is denied may request a hearing by submitting a request for a hearing within thirty days of issuance of the decision denying its application for exemption. If the building owner does not request a hearing within thirty days, the building owner waives its right to a hearing and the director or their designee may issue a final order assessing the penalties described in the NOVI.

Z5.4 Assessment of administrative penalties.

Z5.4.1 Failure to submit documentation demonstrating compliance with the standard by the date specified in a NOVC will result in the issuance of a NOVI and the assessment of administrative penalties at an amount not to exceed five thousand dollars plus an amount based on the duration of any continuing violation. The additional amount for a continuing violation may not exceed a daily amount equal to one dollar per square foot of gross floor area per year.

Z5.4.1.1 Penalties for building owners that submit a noncompliance mitigation plan. For building owners subject to a NOVI who respond within thirty days by submitting a noncompliance mitigation plan (Z5.7), fines shall be assessed on an annual basis or when the building owner achieves compliance or conditional compliance.

a. For applicants that submit a noncompliance mitigation plan and who submit documentation demonstrating completion, daily penalties

will be assessed from the scheduled compliance date to the date of approval of compliance or conditional compliance. The penalty will be assessed at an amount not to exceed 30% of five thousand dollars plus a daily amount equal to \$0.20 per square foot of gross floor area per year.

b. For applicants that submit a noncompliance mitigation plan but have not submitted documentation demonstrating completion, if the building does not comply with the standard by the next compliance date, the building owner will be assessed the maximum penalty of five thousand dollars plus a daily amount equal to \$1.00 per square foot of gross floor area per year not to exceed a value greater than eighteen months of accrued penalty.

The AHJ may by rule increase the penalty rates to adjust for the effects of inflation.

25.4.1.2 Penalties for building owners that choose to pay the fine rather than pursuing compliance. Building owners may choose to respond to the NOVI by paying the maximum penalty. The building owner will be assessed the maximum penalty of five thousand dollars plus a daily amount equal to \$1.00 per square foot of gross floor area per year not to exceed a value greater than eighteen months of accrued penalty. Penalties are assessed for each compliance period.

The AHJ may by rule increase the penalty rates to adjust for the effects of inflation.

25.4.2 When assessed penalties are not paid within one hundred eighty days of the date of a final order assessing penalties, the AHJ may assess further penalties. Total penalties assessed will not exceed five thousand dollars plus a daily amount equal to \$1.00 per square foot of gross floor area per year.

25.4.3 Interest will accrue on civil penalties pursuant to RCW 43.17.240 if and when the debt becomes past due.

25.5 Due date and collection of penalties.

25.5.1 Penalties shall become due and payable on the later of:

1. Thirty days after receipt of the final order imposing the penalty; or
2. The date specified in the final order imposing the penalty.

25.5.2 If a penalty has not been paid by the due date, the AHJ may assign the debt to a collection agency as authorized by RCW 19.16.500 or take other action to pursue collection as authorized by law. If referred to a collection agency, the AHJ may add a reasonable fee, payable by the debtor, to the outstanding debt for the collection agency fee.

25.5.3 For building owners that are implementing a noncompliance mitigation plan but have not yet complied, the AHJ may assess the accumulated daily fine on June 1st of each year or shortly thereafter.

25.6 Payment of administrative penalties.

A check or money order payable in U.S. funds to the Washington state department of commerce can be mailed to:

Washington State Department of Commerce
Re: Clean Buildings Initiative, Energy Division
P.O. Box 42525
Olympia, WA 98504-2525

25.7 Noncompliance mitigation plan. Owners of covered commercial buildings that are out of compliance by the scheduled compliance date and have not corrected the violation by the date noted in a NOVC may reduce possible penalties by demonstrating that they are taking action to achieve compliance with the standard. To begin the process of mitigating noncompliance, a building owner must submit to the AHJ the non-compliance mitigation plan form selecting one of the following actions within thirty days of the date of a NOVI to avoid immediate issuance of penalty in accordance with Z5.4.1.

1. Compliance with the standard in accordance with Z4.2.
2. Conditional compliance with the standard in accordance with Z4.4.
3. Conditional compliance with the standard in accordance with Z4.5.

25.7.1 Mitigation completion. To demonstrate completion, the building owner shall complete all of the requirements of this standard and submit documentation as required by Section Z4.2, Z4.4 or Z4.5. After the building owner has demonstrated completion, the AHJ shall issue a final order assessing the reduced penalty as specified by Z5.4.1.1(a).

25.8 Administrative hearings.

25.8.1 Requesting a hearing. A *building owner* may request an administrative hearing after receiving an NOVI or after the denial of its application for an exemption by submitting a request within thirty days of the date of a NOVI or the denial of a timely application for exemption. All requests must be made in writing and filed at the address specified on the NOVI. For convenience, the AHJ will attach a form titled request for hearing to the NOVI that may be used to request an administrative hearing.

Requests for hearing must be accompanied by the following:

1. Washington State Building ID;
2. Submit Annex Z Forms A, B, and C.

25.8.2 Hearing process. The AHJ may refer matters to the office of administrative hearings (OAH). Administrative hearings will be conducted in accordance with chapter 34.05 WAC, Administrative Procedure Act, chapter 10-08 WAC, Model rules of procedure, and the procedural rules adopted in this chapter. In the case of a conflict between the model rules of procedure and the procedural rules adopted in this section, the procedural rules adopted in this section take precedence.

25.8.3 Initial orders to become final orders. Initial orders issued by the presiding officer will become final without further agency action unless, within twenty days:

1. The director determines that the initial order should be reviewed; or
2. A party to the proceeding files a petition for administrative review of the initial order. Upon occurrence of either event, notice shall be given to all parties to the proceeding.

25.8.4. Judicial review. A final order entered pursuant to this section is subject to judicial review pursuant to RCW 34.05.510 through 34.05.598.

25.8.5 Collected penalties. The AHJ will deposit all penalties collected and received by the department under this section into the low-income weatherization and structural rehabilitation assistance account created in RCW 70.164.030.

Z6 Compliance forms. The following section replace Normative Annex C Forms in Standard 100 and provide additional forms specified by rule Building owners are required to submit the applicable forms and the required supporting information to demonstrate compliance with the standard. These forms replace all referenced forms in this standard. The AHJ will make these forms available in an electronic format for submission to the AHJ.

Z6.1 Compliance with Standard 100 (Form A)

1. Building identification:
 - a. WA state building ID;
 - b. County;
 - c. County parcel number(s);
 - d. Portfolio manager property ID number;
 - e. Property name;
 - f. Parent property name;
 - g. Address 1 (street);
 - h. Address 2;
 - i. City;
 - j. State; and
 - k. Postal code.
2. Contact information:
 - a. *Building owner* name(s);
 - b. Contact name;
 - c. Address 1 (street);
 - d. Address 2;
 - e. City;
 - f. State/Province;
 - g. Country;
 - h. Postal code;
 - i. Telephone number;
 - j. Email address.
3. Qualified person:
 - a. Qualified person name;
 - b. Address 1 (street);
 - c. Address 2;
 - d. City;
 - e. State;
 - f. Postal code;
 - g. Telephone number;
 - h. Email address:
 - i. Licensed, certified (select all that apply);
 - ii. Licensure or certifying authority.
4. *Energy manager* (if different than the qualified person):
 - a. Energy manager name;
 - b. Address 1 (street);
 - c. Address 2;
 - d. City;
 - e. State/Province;
 - f. Postal code;
 - g. Country;
 - h. Telephone number;
 - i. Email address.
5. This compliance report is for:
 - a. Building that meets the EUI_t;

- b. Building that meets the building investment criteria prior to the compliance date;
 - c. Building that will meet the EUI_t through conditional compliance;
 - d. Building that will meet the building investment criteria through conditional compliance;
 - e. Annual reporting;
 - f. Completion reporting.
6. Summary data:
- a. Energy utilization index target (EUI_t) (kBtu/ft² yr) based on completed Z6.2 Form B;
 - b. Measured site EUI (kBtu/ft²) for the compliance year for this building based on Z6.3 Form C;
 - c. Measured weather normalized site EUI (kBtu/ft²) for the compliance year based on Z6.3 Form C;
 - d. List the months/year of the collected data (mm/yyyy - mm/yyyy) for the compliance year for this building from Z6.3 Form C;
 - e. Buildings unable to comply with Section 5.2, Building energy monitoring and complete Z6.3 Form C shall provide a reason statement.
7. Have the energy management requirements of Section 5 been met? Yes No
- Upload energy management plan as specified by the AHJ.
8. Have the operation and maintenance requirements of Section 6 been met? Yes No
- Upload operation and maintenance implementation documentation as specified by the AHJ.
9. Date the audit and economic evaluation was completed (N/A if none required).
- Upload audit reports as specified by Z6.4 Form D.
10. Have all EEMs required by Section 8 been implemented? Yes No
11. Have the requirements of Section 9 been completed? Yes No
12. We state that this building complies with ANSI/ASHRAE/IES Standard 100 as amended by the AHJ to conform with RCW 19.27A.210:
- a. Signature of building owner:
 - Date:
 - b. Signature of qualified person:
 - Date:
 - c. Signature of energy manager:
 - Date:
 - d. Signature of authority having jurisdiction:
 - Conditional or final compliance:
 - Date:

Z6.2 Building activity and energy use intensity target (EUI_t) (Form B). - Complete form provided by the AHJ with the following information:

- 1. Building identification:
 - a. Washington state building ID;
 - b. County;
 - c. County parcel number(s);
 - d. Portfolio manager property ID number;
 - e. Property name;
 - f. Parent property name;
 - g. Address 1 (street);

- h. Address 2;
- i. City;
- j. State; and
- k. Postal code.

2. List the building location climate zone, 4C or 5B. Determine the climate zone using ASHRAE climate zone as found on the map in Informative Annex G. Buildings located in Climate Zone 6 shall use Climate Zone 5B.

3. The gross floor area in square feet shall be reported as defined in Section 3.

4. If entire building is single activity/type not listed in Table 7-1, it should be listed as "building without target" on Z6.1 form. List "energy target" as "N/A" on Z6.2 Form B and Z6.2 Form B is considered complete.

5. Fill in fraction of gross floor area (A)_i for each activity. For single-activity buildings this is 1.0.

6. Fill in the operating shifts normalization factor (S)_i from Table 7-3 for each activity that has an area entered from Step 6.

7. Fill in the activity energy target (EUI_{t1})_i from Table 7-2 (or table from AHJ) for each activity that has an area entered from Step 6.

8. Calculate weighted space EUI target ($A \times S \times EUI_{t1}$)_i for each activity that has an area entered from Step 6.

9. Add up fraction of floor area and enter sum in "Total fraction of floor area with target," and add up all weighted space EUI targets and enter sum as the "energy target" on Z6.2 and Z6.1 Forms B and A.

10. If more than 50% of gross floor area has no target, it should be listed as "building without target" on Z6.1 Form A. List "energy target" as "N/A" on Z6.2 Form B.

For single-activity *buildings* this is 1.0.

Z6.3 Energy-Use Intensity Calculations (Form C).

Energy Use Intensity Calculations shall be reported via the U.S. EPA's ENERGY STAR Portfolio Manager (www.energystar.gov/benchmark). The *energy manager* is responsible for creating Energy Star portfolio manager record for each building.

Exception to Z6.3: Buildings unable to comply with Section 5.2, Building energy monitoring shall demonstrate compliance through Z4.3 or Z4.5.

The Energy Star portfolio manager building record shall be identical to the building activity/type, fraction floor area, operating shifts (hours of operation) and gross floor area of the building as reported on Form B. All inputs shall be up to date prior to reporting as required in Section Z4 and annually as required in Section 5.1.2.3, Annual updates of the *net energy use* and *EUI*.

Prior to submitting reports run the Energy Star portfolio manager data quality checker and make all corrections required to complete the report.

The energy manager shall use the EPA's Energy Star portfolio manager share properties feature and share the property data with the AHJ by enabling the read only access and exchange data feature.

For each report submitted under Section Z4, the energy manager shall create and submit a report documenting the required data fields listed (below) and other fields deemed necessary by the AHJ for the reporting period. This shall be submitted using the Washington state report specified in Energy Star portfolio manager.

Report fields shall include:

- Portfolio manager property ID;
- Portfolio manager parent property ID;
- Property name;
- Parent property name;
- Address 1;
- Address 2;
- City;
- County;
- State/Province;
- Postal Code;
- Primary property type - Self-selected;
- Primary property type - EPA calculated;
- List of all property use types at property;
- Property GFA - Self-reported (ft²);
- Property GFA - EPA calculated (buildings and parking) (ft²);
- Property GFA - EPA calculated (buildings) (ft²);
- Property GFA - EPA calculated (parking) (ft²);
- Largest property use type;
- Largest property use type - Gross floor area (ft²);
- 2nd Largest property use type;
- 2nd Largest property use - Gross floor area (ft²);
- 3rd Largest property use type;
- 3rd Largest property use type - Gross floor area (ft²);
- Year built;
- Occupancy;
- Property notes;
- Property data administrator;
- Property data administrator - Email;
- Last modified date - Property;
- Last modified date - Electric meters;
- Last modified date - Gas meters;
- Last modified date - Nonelectric nongas energy meters;
- Local standard ID(s) Washington state building standard;
- Data center - Energy estimates applied;
- Electricity use - Grid purchase and generated from on-site renewable systems (kWh);
- Electricity use - Grid purchase (kWh);
- Electricity use - Generated from on-site renewable systems and used on-site (kWh);
- Natural gas use (therms);
- Fuel oil #1 use (kBtu);
- Fuel oil #2 use (kBtu);
- Fuel oil #4 use (kBtu);
- Fuel oil #5 and 6 use (kBtu);
- Diesel #2 use (kBtu);
- Kerosene use (kBtu);
- Propane use (kBtu);
- District steam use (kBtu);
- District hot water use (kBtu);
- District chilled water use (kBtu);
- Coal - Anthracite use (kBtu);
- Coal - Bituminous use (kBtu);
- Coke use (kBtu);
- Wood use (kBtu);

- Other use (kBtu);
- Default values;
- Temporary values;
- Estimated data flag - Electricity (grid purchase);
- Estimated data flag - Natural gas;
- Alert - Data center does not have an IT meter;
- Alert - Gross floor area is 0 ft²;
- Alert - Property has no uses;
- Data quality checker - Date run;
- Data quality checker run - ?
- Alert - Energy meter has less than 12 full calendar months of data;
- Alert - Energy meter has gaps;
- Alert - Energy meter has overlaps;
- Alert - Energy - No meters selected for metrics;
- Alert - Energy meter has single entry more than sixty-five days;
- Estimated values - Energy;
- Energy Star score;
- National median site energy use (kBtu);
- Site energy use (kBtu);
- Site EUI (kBtu/ft²);
- Weather normalized site energy use (kBtu);
- Weather normalized site EUI (kBtu/ft²);
- Weather normalized site electricity (kWh);
- Weather normalized site electricity intensity (kWh/ft²);
- Weather normalized site natural gas use (therms);
- Weather normalized site natural gas intensity (therms/ft²) energy current date;
- Electricity use - Generated from on-site renewable systems (kWh);
- Electricity use - Generated from on-site renewable systems and exported (kWh);
- Electricity Use - Grid purchase and generated from on-site renewable systems (kBtu);
- Electricity use - Grid purchase (kBtu);
- Electricity use - Generated from on-site renewable systems and used on site (kBtu);
- Natural gas use (kBtu);
- Percent of total electricity generated from on-site renewable systems;
- Cooling degree days (CDD) (°F);
- Heating degree days (HDD) (°F);
- Weather station name;
- Weather station ID.

Z6.4 End-use analysis requirements. Building owners shall demonstrate compliance with Form D by providing the documentation required by section Z6.4.1.

Z6.4.1 Energy Audit Forms (Form D). The energy audit form shall be provided electronically by completing the energy audit form included in the U.S. Department of Energy, Energy Asset Score Tool, or an equivalent tool provided by the AHJ. This form shall be completed in compliance with the level 2 energy audit, as published in ASHRAE Standard 211, Standard for commercial building energy audits.

Form E - Not adopted.

Z6.5 Annex X, Investment Criteria Tool (Form F).

Z6.5.1 To demonstrate compliance with the investment criteria of Normative Annex X, building owners shall complete and submit Form F.

Z6.5.2 Form F shall be developed by the AHJ. Form F shall be a life cycle cost evaluation tool compliant with NIST Standard 135 and capable of supporting the evaluation criteria required by Normative Annex X.

Z6.6 Documentation of a building of historic significance (Form G).

Energy efficiency measure exemptions for historic buildings. No individual energy efficiency measure identified by energy efficiency audits need to be implemented if it would compromise the historical integrity of a building or part of a building. Building owners seeking this exception shall provide the following documentation. Certified historic buildings are not exempt from the other requirements of this standard.

Plan for compliance. The owner of a qualifying historic building shall have the plan for compliance evaluated by a qualified historic preservationist, as defined in 36 C.F.R., Part 61, identifying any energy efficiency requirement that may compromise the historic integrity of the building or part of the building. Any element of the plan identified to compromise the historic integrity of the building or part of the building shall be omitted from the compliance plan. Evidence of this evaluation must be submitted to the AHJ for approval.

Documentation of a historic building. Building owners must provide documentation to the AHJ that proves its historic identification or eligibility. Valid documentation from any existing programs listed below is acceptable.

1. Examples of existing programs that verify historic property include:
 - a. The National Register of Historic Places;
 - b. The Washington heritage register;
 - c. Properties that are identified by the department of archaeology and historic preservation (DAHP) to be eligible for listing in either one of these registers; and
 - d. Properties which are listed in a local register of historic places; or
2. Other documentation approved by the AHJ.

Z6.7 Application for Exemption Certificate (Form H).

Apply for an exemption certificate by submitting the following documentation to the building owner in the form specified by the AHJ. The application must include:

1. Building identification:
 - a. Washington state building ID;
 - b. County;
 - c. County parcel number(s);
 - d. Portfolio manager property ID number;
 - e. Property name;
 - f. Parent property name;
 - g. Address 1 (street);
 - h. Address 2;
 - i. City;
 - j. State; and
 - k. Postal code.

2. Contact information:
 - a. Building owner name(s);
 - b. Contact name;
 - c. Address 1 (street);
 - d. Address 2;
 - e. City;
 - f. State/Province;
 - g. Country;
 - h. Postal code;
 - i. Telephone number; and
 - j. Email address.
3. Building information:
 - a. Primary building activity from Table 7-1, or a description of the nonlisted building type;
 - b. Building gross floor area;
 - c. Building gross conditioned floor area.
4. Reason for exemption: Based on exemptions listed in Section Z4.1(2).

A list all of documents enclosed and any facts in support of this application. Provide at least two of the acceptable documents listed below:

 - a. Municipal or county records;
 - b. Documents from a qualified person;
 - c. Construction permit;
 - d. Certificate of occupancy or application for certificate of occupancy;
 - e. Demolition permit;
 - f. Financial statements such as statement of assets; liabilities, capital, and surplus, statement of revenue and expenses; or statement of case flow;
 - g. A letter from the building owner stating facts and explaining financial hardships;
 - h. Other documentation approved by the AHJ.
5. Signature and statement of *building owner* stating that the authorized representative of the building, affirm and attest to the accuracy, truthfulness and completeness of the statements of material fact provided in this form.

Z7 Section 7—Tables as modified by Washington state.

Table 7-1 Commercial Building Types/Activities

No.	Building Activity Type ^{1,2}			Notes
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	
1	Banking/financial services	Bank Branch		
2	Banking/financial services	Financial Office		
3	Education	Adult Education		
4	Education	College/University		
5	Education	K-12 School	Elementary/middle school	
6	Education	K-12 School	High school	
7	Education	Preschool/Daycare		
8	Education	Vocational School		
9	Education	Other - Education		
10	Entertainment/public assembly	Aquarium		
11	Entertainment/public assembly	Bar/Nightclub		

No.	Building Activity Type ^{1,2}			Notes
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	
12	Entertainment/public assembly	Bowling Alley		
13	Entertainment/public assembly	Casino		
14	Entertainment/public assembly	Convention Center		
15	Entertainment/public assembly	Fitness Center/Health Club/Gym		
16	Entertainment/public assembly	Ice/Curling Rink		
17	Entertainment/public assembly	Indoor Arena		
18	Entertainment/public assembly	Movie Theater		
19	Entertainment/public assembly	Museum		
20	Entertainment/public assembly	Performing Arts		
21	Entertainment/public assembly	Race Track		
22	Entertainment/public assembly	Roller Rink		
23	Entertainment/public assembly	Social/Meeting Hall		
24	Entertainment/public assembly	Stadium (Closed)		
25	Entertainment/public assembly	Stadium (Open)		
26	Entertainment/public assembly	Swimming Pool		
27	Entertainment/public assembly	Zoo		
28	Entertainment/public assembly	Other - Entertainment/Public Assembly	Entertainment/culture	
29	Entertainment/public assembly	Other - Entertainment/Public Assembly	Library	
30	Entertainment/public assembly	Other - Entertainment/Public Assembly	Other public assembly	
31	Entertainment/public assembly	Other - Entertainment/Public Assembly	Recreation	
32	Entertainment/public assembly	Other - Entertainment/Public Assembly	Social/meeting	
33	Entertainment/public assembly	Other - Recreation		
34	Entertainment/public assembly	Other - Stadium		
35	Food sales and service	Bar/Nightclub		
36	Food sales and service	Convenience Store with Gas Station		
37	Food sales and service	Convenience Store without Gas Station		
38	Food sales and service	Fast Food Restaurant		
39	Food sales and service	Food Sales	Grocery/food market	
40	Food sales and service	Food Sales	Convenience store with gas	
41	Food sales and service	Food Sales	Convenience store	
42	Food sales and service	Food Sales	Other food sales	
43	Food sales and service	Food Service	Fast food	
44	Food sales and service	Food Service	Restaurant/cafeteria	
45	Food sales and service	Food Service	Other food service	
46	Food sales and service	Restaurant		
47	Food sales and service	Supermarket/Grocery Store		
48	Food sales and service	Wholesale Club/Supercenter		
49	Food sales and service	Other - Restaurant/Bar		
50	Healthcare	Ambulatory Surgical Center		

No.	Building Activity Type ^{1,2}			Notes
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	
51	Healthcare	Hospital (General Medical & Surgical)*		
52	Healthcare	Medical Office		3
53	Healthcare	Outpatient Rehabilitation/ Physical Therapy		
54	Healthcare	Residential Care Facility		
55	Healthcare	Senior Care Community		
56	Healthcare	Urgent Care/Clinic/Other Outpatient		
57	Healthcare	Other - Specialty Hospital		
58	Lodging/residential	Barracks		
59	Lodging/residential	Hotel	Hotel	
60	Lodging/residential	Hotel	Motel or inn	
61	Lodging/residential	Multifamily Housing		
62	Lodging/residential	Prison/Incarceration		
63	Lodging/residential	Residence Hall/Dormitory		
64	Lodging/residential	Residential Care Facility		
65	Lodging/residential	Senior Care Community		
66	Lodging/residential	Other - Lodging/Residential		
67	Mixed use	Mixed Use Property		4
68	Office	Medical Office		3
69	Office	Office	Admin/professional office	
70	Office	Office	Bank/other financial	
71	Office	Office	Government office	
72	Office	Office	Medical office (diagnostic)	3
73	Office	Office	Other office	
74	Office	Veterinary Office		
75	Office	Other - Office		
76	Public services	Courthouse		
77	Public services	Fire Station		
78	Public services	Library		
79	Public services	Mailing Center/Post Office		
80	Public services	Police Station		
81	Public services	Prison/Incarceration		
82	Public services	Social/Meeting Hall		
83	Public services	Transportation Terminal/Station		
84	Public services	Other - Public Service		
85	Religious worship	Worship Facility		
86	Retail	Automobile Dealership		
87	Retail	Convenience Store with Gas Station		
88	Retail	Convenience Store without Gas Station		
89	Retail	Enclosed Mall		5
90	Retail	Lifestyle Center	Enclosed mall	5
91	Retail	Lifestyle Center	Other retail	

No.	Building Activity Type ^{1,2}			Notes
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	
92	Retail	Lifestyle Center	Retail store	
93	Retail	Lifestyle Center		4
94	Retail	Retail Store		
95	Retail	Strip Mall		4
96	Retail	Supermarket/Grocery Store		
97	Retail	Wholesale Club/Supercenter		
98	Retail	Other - Retail/Mall	Enclosed mall	5
99	Retail	Other - Retail/Mall		4
100	Technology/science	Data Center		6
101	Technology/science	Laboratory		
102	Technology/science	Other - Technology/Science	Other service	
103	Services	Personal Services (Health/Beauty, Dry Cleaning, etc.)		
104	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Repair shop	
105	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle service/repair shop	
106	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle storage/maintenance	
107	Services	Other - Services		
108	Utility	Energy/Power Station		7
109	Utility	Other - Utility		7
110	Warehouse/storage	Self-Storage Facility		
111	Warehouse/storage	Distribution Center		
112	Warehouse/storage	Nonrefrigerated Warehouse		
113	Warehouse/storage	Refrigerated Warehouse		

- Notes:
1. Select the most specific building activity type that applies.
 2. For building type definitions see Energy Star portfolio manager definitions except as follows:
 - Data center: Is an activity space designed and equipped to meet the needs of high density computing equipment, such as server racks, used for data storage and processing, including dedicated uninterruptible power supplies and cooling systems and require a constant power load of 75 kW or more. Gross floor area shall only include space within the building including raised floor computing space, server rack aisles, storage silos, control console areas, battery rooms and mechanical rooms for dedicated cooling equipment. Gross floor area shall not include a server closet, telecommunications equipment closet, computer training area, office, elevator, corridors, or other auxiliary space.
 - Urgent care center/clinic/other outpatient office means the buildings used to diagnose and treat patients, usually on an unscheduled, walk-in basis, who have an injury or illness that requires immediate care but is not serious enough to warrant a visit to an emergency department. Includes facilities that provide same-day surgical, diagnostic and preventive care.
 3. All medical offices considered to be diagnostic type.
 4. Must use of Section 7.2.3 method for mixed use buildings.
 5. Suggest considering use of Section 7.2.3 method for mixed use buildings.
 6. This is a building or activity without an energy target. Included to provide definition only.
 7. This is a building or activity without an energy target. This may be exempt from the standard, see Section Z4.1 2, d.

Table 7-2a Building Activity Site Energy Targets (EUI_{t1}) (I-P Units)

No.	Building Activity Type ^{1,2}			Notes	Climate Zone 4C	Climate Zone 5B
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		EUI _t	EUI _t
1	Banking/financial services	Bank Branch			69	71
2	Banking/financial services	Financial Office			69	71
3	Education	Adult Education			49	51
4	Education	College/University			102	102

	Building Activity Type^{1,2}				Climate Zone 4C	Climate Zone 5B
No.	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	Notes	EUI_t	EUI_t
5	Education	K-12 School	Elementary/middle school		49	50
6	Education	K-12 School	High school		48	49
7	Education	Preschool/Daycare			59	59
8	Education	Vocational School			49	51
9	Education	Other - Education			49	51
10	Entertainment/public assembly	Aquarium			55	59
11	Entertainment/public assembly	Bar/Nightclub			55	59
12	Entertainment/public assembly	Bowling Alley			73	78
13	Entertainment/public assembly	Casino			55	59
14	Entertainment/public assembly	Convention Center			50	52
15	Entertainment/public assembly	Fitness Center/Health Club/Gym			73	78
16	Entertainment/public assembly	Ice/Curling Rink			73	78
17	Entertainment/public assembly	Indoor Arena			67	70
18	Entertainment/public assembly	Movie Theater			67	70
19	Entertainment/public assembly	Museum			67	70
20	Entertainment/public assembly	Performing Arts			55	59
21	Entertainment/public assembly	Race Track			67	70
22	Entertainment/public assembly	Roller Rink			73	78
23	Entertainment/public assembly	Social/Meeting Hall			50	52
24	Entertainment/public assembly	Stadium (Closed)			67	70
25	Entertainment/public assembly	Stadium (Open)			67	70
26	Entertainment/public assembly	Swimming Pool			73	78
27	Entertainment/public assembly	Zoo			55	59
28	Entertainment/public assembly	Other - Entertainment/Public Assembly	Entertainment/culture		67	70
29	Entertainment/public assembly	Other - Entertainment/Public Assembly	Library		56	59
30	Entertainment/public assembly	Other - Entertainment/Public Assembly	Other public assembly		55	59
31	Entertainment/public assembly	Other - Entertainment/Public Assembly	Recreation		73	78

	Building Activity Type^{1,2}				Climate Zone 4C	Climate Zone 5B
No.	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	Notes	EUI_t	EUI_t
32	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Social/meeting		50	52
33	Entertainment/public assembly	Other - Recreation			73	78
34	Entertainment/public assembly	Other - Stadium			67	70
35	Food sales and service	Bar/Nightclub			361	378
36	Food sales and service	Convenience Store with Gas Station			244	253
37	Food sales and service	Convenience Store without Gas Station			260	269
38	Food sales and service	Fast Food Restaurant			427	454
39	Food sales and service	Food Sales	Grocery/food market		191	198
40	Food sales and service	Food Sales	Convenience store with gas		260	269
41	Food sales and service	Food Sales	Convenience store		244	253
42	Food sales and service	Food Sales	Other food sales		184	189
43	Food sales and service	Food Service	Fast food		427	454
44	Food sales and service	Food Service	Restaurant/cafeteria		361	378
45	Food sales and service	Food Service	Other food service		293	308
46	Food sales and service	Restaurant			361	378
47	Food sales and service	Supermarket/Grocery Store			191	198
48	Food sales and service	Wholesale Club/ Supercenter			68	75
49	Food sales and service	Other - Restaurant/Bar			361	378
50	Healthcare	Ambulatory Surgical Center			90	96
51	Healthcare	Hospital (General Medical & Surgical)*			215	215
52	Healthcare	Medical Office		3		
53	Healthcare	Outpatient Rehabilitation/Physical Therapy			90	96
54	Healthcare	Residential Care Facility			78	82
55	Healthcare	Senior Care Community			78	82
56	Healthcare	Urgent Care/Clinic/ Other Outpatient			90	96
57	Healthcare	Other - Specialty Hospital			196	196
58	Lodging/residential	Barracks			88	90
59	Lodging/residential	Hotel	Hotel		68	72
60	Lodging/residential	Hotel	Motel or inn		74	77
61	Lodging/residential	Multifamily Housing			32	33
62	Lodging/residential	Prison/Incarceration			101	106
63	Lodging/residential	Residence Hall/ Dormitory			88	90

	Building Activity Type^{1,2}				Climate Zone 4C	Climate Zone 5B
No.	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed	Notes	EUI_t	EUI_t
64	Lodging/residential	Residential Care Facility			78	82
65	Lodging/residential	Senior Care Community			78	82
66	Lodging/residential	Other - Lodging/Residential			71	74
67	Mixed use	Mixed Use Property		4		
68	Office	Medical Office		3	60	65
69	Office	Office	Admin/professional office		63	66
70	Office	Office	Bank/other financial		69	71
71	Office	Office	Government office		66	69
72	Office	Office	Medical office (diagnostic)	3	60	65
73	Office	Office	Other office		66	68
74	Office	Veterinary Office			90	96
75	Office	Other - Office			66	68
76	Public services	Courthouse			101	106
77	Public services	Fire Station			65	68
78	Public services	Library			56	59
79	Public services	Mailing Center/Post Office			51	54
80	Public services	Police Station			65	68
81	Public services	Prison/Incarceration			101	106
82	Public services	Social/Meeting Hall			50	52
83	Public services	Transportation Terminal/Station			55	59
84	Public services	Other - Public Service			66	69
85	Religious worship	Worship Facility			39	42
86	Retail	Automobile Dealership			59	66
87	Retail	Convenience Store with Gas Station			260	269
88	Retail	Convenience Store without Gas Station			244	253
89	Retail	Enclosed Mall		5	58	64
90	Retail	Lifestyle Center	Enclosed mall	5	58	64
91	Retail	Lifestyle Center	Other retail		55	62
92	Retail	Lifestyle Center	Retail store		68	75
93	Retail	Lifestyle Center		4		
94	Retail	Retail Store			68	75
95	Retail	Strip Mall		4		
96	Retail	Supermarket/Grocery Store			191	198
97	Retail	Wholesale Club/ Supercenter			68	75
98	Retail	Other - Retail/Mall	Enclosed mall	5	58	64
99	Retail	Other - Retail/Mall		4		

No.	Building Activity Type ^{1,2}			Notes	Climate Zone 4C	Climate Zone 5B
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		EUI _t	EUI _t
100	Technology/science	Data Center		6		
101	Technology/science	Laboratory			237	249
102	Technology/science	Other - Technology/ Science	Other service		66	69
103	Services	Personal Services (Health/Beauty, Dry Cleaning, etc.)			66	69
104	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Repair shop		36	39
105	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle service/repair shop		60	64
106	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle storage/maintenance		41	44
107	Services	Other - Services			66	69
108	Utility	Energy/Power Station		7		
109	Utility	Other - Utility		7		
110	Warehouse/storage	Self-Storage Facility			36	44
111	Warehouse/storage	Distribution Center			36	44
112	Warehouse/storage	Nonrefrigerated Warehouse			36	44
113	Warehouse/storage	Refrigerated Warehouse			121	126

- Notes:
1. Select the most specific building activity type that applies.
 2. For building type definitions see Energy Star portfolio manager definitions except as follows:
 - Data center: Is an activity space designed and equipped to meet the needs of high density computing equipment, such as server racks, used for data storage and processing, including dedicated uninterruptible power supplies and cooling systems and require a constant power load of 75 kW or more. Gross floor area shall only include space within the building including raised floor computing space, server rack aisles, storage silos, control console areas, battery rooms and mechanical rooms for dedicated cooling equipment. Gross floor area shall not include a server closet, telecommunications equipment closet, computer training area, office, elevator, corridors, or other auxiliary space.
 - Urgent care center/clinic/other outpatient office means the buildings used to diagnose and treat patients, usually on an unscheduled, walk-in basis, who have an injury or illness that requires immediate care but is not serious enough to warrant a visit to an emergency department. Includes facilities that provide same-day surgical, diagnostic and preventive care.
 3. All medical offices considered to be diagnostic type.
 4. Must use of Section 7.2.3 method for mixed use buildings.
 5. Suggest considering use of Section 7.2.3 method for mixed use buildings.
 6. This is a building or activity without an energy target. Included to provide definition only.
 7. This is a building or activity without an energy target. This may be exempt from the standard, see Section Z4.1 2, d.

Table 7-3 Building Operating Shifts Normalization Factor

No.	Building Activity Type ^{1,2}			Notes	Weekly Hours ^{1,2}		
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		50 or less	51 to 167	168
1	Banking/financial services	Bank Branch		3	0.8	1.0	1.5
2	Banking/financial services	Financial Office		3	0.8	1.0	1.5
3	Education	Adult Education		4	0.9	1.1	1.9
4	Education	College/University		4	0.9	1.1	1.9
5	Education	K-12 School	Elementary/middle school	4	0.9	1.1	1.9
6	Education	K-12 School	High school	4	0.9	1.1	1.9

No.	Building Activity Type ^{1,2}			Notes	Weekly Hours ^{1,2}		
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		50 or less	51 to 167	168
7	Education	Preschool/Daycare		4	0.9	1.1	1.9
8	Education	Vocational School		4	0.9	1.1	1.9
9	Education	Other - Education		4	0.9	1.1	1.9
10	Entertainment/public assembly	Aquarium		4	0.6	1.1	1.6
11	Entertainment/public assembly	Bar/Nightclub		4	0.6	1.1	1.6
12	Entertainment/public assembly	Bowling Alley		4	0.6	1.1	1.6
13	Entertainment/public assembly	Casino		4	0.6	1.1	1.6
14	Entertainment/public assembly	Convention Center		4	0.6	1.1	1.6
15	Entertainment/public assembly	Fitness Center/Health Club/Gym		4	0.6	1.1	1.6
16	Entertainment/public assembly	Ice/Curling Rink		4	0.6	1.1	1.6
17	Entertainment/public assembly	Indoor Arena		4	0.6	1.1	1.6
18	Entertainment/public assembly	Movie Theater		4	0.6	1.1	1.6
19	Entertainment/public assembly	Museum		4	0.6	1.1	1.6
20	Entertainment/public assembly	Performing Arts		4	0.6	1.1	1.6
21	Entertainment/public assembly	Race Track		4	0.6	1.1	1.6
22	Entertainment/public assembly	Roller Rink		4	0.6	1.1	1.6
23	Entertainment/public assembly	Social/Meeting Hall		4	0.6	1.1	1.6
24	Entertainment/public assembly	Stadium (Closed)		4	0.6	1.1	1.6
25	Entertainment/public assembly	Stadium (Open)		4	0.6	1.1	1.6
26	Entertainment/public assembly	Swimming Pool		4	0.6	1.1	1.6
27	Entertainment/public assembly	Zoo		4	0.6	1.1	1.6
28	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Entertainment/culture	4	0.6	1.1	1.6
29	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Library	4	0.6	1.1	1.6
30	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Other public assembly	4	0.6	1.1	1.6
31	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Recreation	4	0.6	1.1	1.6
32	Entertainment/public assembly	Other - Entertainment/ Public Assembly	Social/meeting	4	0.6	1.1	1.6
33	Entertainment/public assembly	Other - Recreation		4	0.6	1.1	1.6

No.	Building Activity Type ^{1,2}			Notes	Weekly Hours ^{1,2}		
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		50 or less	51 to 167	168
34	Entertainment/public assembly	Other - Stadium		4	0.6	1.1	1.6
35	Food sales and service	Bar/Nightclub		4	0.6	1.1	1.5
36	Food sales and service	Convenience Store with Gas Station		4	0.5	0.9	1.3
37	Food sales and service	Convenience Store without Gas Station		4	0.5	0.9	1.3
38	Food sales and service	Fast Food Restaurant		4	0.6	1.1	1.5
39	Food sales and service	Food Sales	Grocery/food market	4	0.5	0.9	1.3
40	Food sales and service	Food Sales	Convenience store with gas	4	0.5	0.9	1.3
41	Food sales and service	Food Sales	Convenience store	4	0.5	0.9	1.3
42	Food sales and service	Food Sales	Other food sales	4	0.5	0.9	1.3
43	Food sales and service	Food Service	Fast food	4	0.6	1.1	1.5
44	Food sales and service	Food Service	Restaurant/cafeteria	4	0.6	1.1	1.5
45	Food sales and service	Food Service	Other food service	4	0.6	1.1	1.5
46	Food sales and service	Restaurant		4	0.6	1.1	1.5
47	Food sales and service	Supermarket/Grocery Store		4	0.5	0.9	1.3
48	Food sales and service	Wholesale Club/Supercenter		4	0.6	1.0	1.5
49	Food sales and service	Other - Restaurant/Bar		4	0.6	1.1	1.5
50	Healthcare	Ambulatory Surgical Center		4,7	0.8	1.1	1.3
51	Healthcare	Hospital (General Medical & Surgical)*			1.0	1.0	1.0
52	Healthcare	Medical Office		4,7	0.8	1.0	1.5
53	Healthcare	Outpatient Rehabilitation/Physical Therapy		4,7	0.8	1.1	1.3
54	Healthcare	Residential Care Facility			1.0	1.0	1.0
55	Healthcare	Senior Care Community			1.0	1.0	1.0
56	Healthcare	Urgent Care/Clinic/Other Outpatient		4,7	0.8	1.1	1.3
57	Healthcare	Other - Specialty Hospital			1.0	1.0	1.0
58	Lodging/residential	Barracks			1.0	1.0	1.0
59	Lodging/residential	Hotel	Hotel		1.0	1.0	1.0
60	Lodging/residential	Hotel	Motel or inn		1.0	1.0	1.0
61	Lodging/residential	Multifamily Housing			1.0	1.0	1.0
62	Lodging/residential	Prison/Incarceration			1.0	1.0	1.0
63	Lodging/residential	Residence Hall/Dormitory			1.0	1.0	1.0
64	Lodging/residential	Residential Care Facility			1.0	1.0	1.0
65	Lodging/residential	Senior Care Community			1.0	1.0	1.0

No.	Building Activity Type ^{1,2}			Notes	Weekly Hours ^{1,2}		
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		50 or less	51 to 167	168
66	Lodging/residential	Other - Lodging/Residential			1.0	1.0	1.0
67	Mixed use	Mixed Use Property		6			
68	Office	Medical Office		4,7	0.8	1.1	1.3
69	Office	Office	Admin/professional office	3	0.8	1.0	1.5
70	Office	Office	Bank/other financial	3	0.8	1.0	1.5
71	Office	Office	Government office	3	0.8	1.0	1.5
72	Office	Office	Medical office (diagnostic)	4	0.8	1.1	1.3
73	Office	Office	Other office	3	0.8	1.0	1.5
74	Office	Veterinary Office		3	0.8	1.1	1.3
75	Office	Other - Office		3	0.8	1.0	1.5
76	Public services	Courthouse		4	0.8	0.8	1.1
77	Public services	Fire Station		3	0.8	0.8	1.1
78	Public services	Library		4	0.6	1.1	1.6
79	Public services	Mailing Center/Post Office		3	0.8	1.2	1.3
80	Public services	Police Station		3	0.8	0.8	1.1
81	Public services	Prison/Incarceration			1.0	1.0	1.0
82	Public services	Social/Meeting Hall		4	0.6	1.1	1.6
83	Public services	Transportation Terminal/Station		4	0.6	1.1	1.6
84	Public services	Other - Public Service		4	0.8	1.2	1.3
85	Religious worship	Worship Facility		5	0.9	1.7	1.7
86	Retail	Automobile Dealership		4	0.6	1.0	1.5
87	Retail	Convenience Store with Gas Station		4	0.5	0.9	1.3
88	Retail	Convenience Store without Gas Station		4	0.5	0.9	1.3
89	Retail	Enclosed Mall		4	0.6	1.0	1.5
90	Retail	Lifestyle Center	Enclosed mall	4	0.6	1.0	1.5
91	Retail	Lifestyle Center	Other retail	4	0.6	1.0	1.5
92	Retail	Lifestyle Center	Retail store	4	0.6	1.0	1.5
93	Retail	Lifestyle Center					
94	Retail	Retail Store		4	0.6	1.0	1.5
95	Retail	Strip Mall					
96	Retail	Supermarket/Grocery Store		4	0.5	0.9	1.3
97	Retail	Wholesale Club/Supercenter		4	0.6	1.0	1.5
98	Retail	Other - Retail/Mall	Enclosed mall	4	0.6	1.0	1.5
99	Retail	Other - Retail/Mall					
100	Technology/science	Data Center					
101	Technology/science	Laboratory		3	1.0	1.0	1.0
102	Technology/science	Other - Technology/Science	Other service	3	0.8	1.2	1.3

No.	Building Activity Type ^{1,2}			Notes	Weekly Hours ^{1,2}		
	Portfolio Manager Types	Portfolio Manager Sub-Types	Sub-Types: Detailed		50 or less	51 to 167	168
103	Services	Personal Services (Health/Beauty, Dry Cleaning, etc.)		4	0.8	1.2	1.3
104	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Repair shop	4	0.8	1.2	1.3
105	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle service/repair shop	4	0.8	1.2	1.3
106	Services	Repair Services (Vehicle, Shoe, Locksmith, etc.)	Vehicle storage/maintenance	4	0.8	1.2	1.3
107	Services	Other - Services		4	0.8	1.2	1.3
108	Utility	Energy/Power Station					
109	Utility	Other - Utility					
110	Warehouse/storage	Self-Storage Facility		4	0.8	1.0	1.4
111	Warehouse/storage	Distribution Center		3	0.8	1.0	1.4
112	Warehouse/storage	Nonrefrigerated Warehouse		3	0.8	1.0	1.4
113	Warehouse/storage	Refrigerated Warehouse		3,8	1.0	1.0	1.4

- Notes:
1. Do not count the hours when the property is occupied only by maintenance, security, the cleaning crew, or other support personnel. Do not count the hours when the property is occupied only by maintenance staff.
 2. Working hours are based on the average use over the twelve month period selected to document energy use in form C.
 3. The weekly hours are the total number of hours per week where the majority of workers are present. If there are two or more shifts of workers, add the hours. When developing targets using Section 7.2.3 for mixed use buildings, use the hours each separate activity, the hours per week the majority of workers are present.
 4. The weekly hours are the hours that be majority of the building is open to serve the public. When developing targets using Section 7.2.3 for mixed use buildings, the hours each separate activity is open to the public.
 5. The weekly hours the facility is open for operation, which may include worship services, choir practice, administrative use, committee meetings, classes, or other activities.
 6. Must use of Section 7.2.3 method for mixed use buildings.
 7. Health care buildings may use other weekly hours if they are required to operate building systems additional hours to protect patient and staff safety. Provide documentation of the requirement in the energy management plan.
 8. Refrigerated warehouse greater than 167 hours assumes the workers on shift are loading and/or unloading vehicles.

[Statutory Authority: RCW 19.27A.210. WSR 20-22-059, § 194-50-150, filed 10/30/20, effective 11/30/20.]