Supplement to the NECB 2011: Intent Statements

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Introduction

Background

The 2011 edition of the National Energy Code for Buildings (NECB) is presented in a format called "objective-based code" that is structured in three Divisions (A, B and C). The Code contains an explicitly defined objective and functional statements (see Division A), which are statements on the functions that the components of a building or facility must perform and the objective that these functions must satisfy. Most of the Code provisions in Division B—called acceptable solutions—are linked to the objective and one or more functional statements (referred to as "attributions").

Objectives and functional statements are developed through a process called "bottom-up analysis," which involves the analysis of each provision in Division B of the National Model Construction Codes to determine its intent and then derive applicable objectives and functional statements. The bottom-up analysis is carried out by the standing committees of the Canadian Commission on Building and Fire Codes (CCBFC) with extensive support from the staff of the Canadian Codes Centre (CCC).

Intent statements, which are additional, non-mandatory information and not an integral part of the Codes, provide guidance to Code users. The intent statements contain useful information not available elsewhere that helps users understand the rationale behind each requirement. This contributes to a more accurate interpretation and application of acceptable solutions and a clearer understanding of what alternative solutions should achieve.

Understanding the Content of the Supplement to the NECB 2011: Intent Statements

Only the provisions in Parts 3 to 8 of Division B (i.e. the acceptable solutions not including their Appendix Notes) have intent statements.

Clicking on a Sentence reference in the left-hand portion of the screen brings up an analysis window on the right-hand side, which contains that Sentence's applicable attribution(s) and intent statement(s).

Code Reference

For the most part, entire Sentences are analyzed as units of text. In such cases, only the Sentence number is identified in the analysis window and the actual text of the Sentence can be found in the printed Code. In some instances, however, the analysis applies to only a portion of a Sentence; in such cases, the Clause or Subclause being analyzed is identified in the field entitled "Attribution" or the portion of text being analyzed is quoted or summarized in that field and introduced by the phrase "Applies to."

Objective

The objective attributed to the provisions or portions of provisions in Division B is derived from the bottom-up analysis. Each analysis window contains a tab or tabs displaying the acronym for the objective (OE1). Clicking on a tab reveals a panel containing the information related to that objective attribution.

Some provisions or portions of provisions in Division B have no objective attributed to them. In such instances, the tab will display the symbol "+" rather than the objective.

Attribution

The specific functional statements and sub-objectives attributed to the text being analyzed are presented in square brackets in the Attribution field. If the attribution(s) and intent statement(s) apply to the entire Sentence, no explanatory text will appear before or after the square brackets; if they apply to only a portion of a Sentence, the square brackets will either be preceded by the Clause or Subclause identifier, or followed by a phrase beginning with "Applies to," which specifies which portion of the Sentence the attributions and analysis apply to.

Intent

An intent statement explains the purpose of a provision or portion of provision found in Division B. It reveals

what the standing committee was trying to achieve by introducing the Code provision in the first place or what the Code-user community has come to understand as the reason for the provision's existence.

Generally speaking, intent statements present the consequences of non-compliance with a requirement using a standardized set of phrases and terms. They try to answer the question “What are the undesirable thing(s) that might happen if this provision is not complied with?” In many cases, the initial consequences of non-compliance may lead to a chain of consequences; the link between those consequences and the overall objective of the provision may only become apparent in the description of the latter consequences in the chain. All functional statements and the objective identified in Division A and attributed to the provisions in Division B are derived from the intent statements.

Not all Code provisions are technical requirements; some act as definitions, clarifications, application modifiers or pointers to another provision. In such cases, the intent statement explains the role the provision plays in the Code and there is no chain of consquences. These types of provisions have no objective or functional statements attributed to them. Appendix Note A-1.1.2.1.(1) in Division B of the Code provides information on how these types of provisions are interpreted.

“To Limit the Probability”

Many of the hazards and undesirable events the National Model Construction Codes address, such as deterioration, spread of fire and heat loss, can only be minimized, retarded or controlled through compliance; other undesirable events such as the ignition of fire or structural collapse can never be prevented with absolute assurance. This is why the phrase “to limit the probability” is used in the intent statements rather than “to prevent.”

Using the phrase “to prevent” would mean that it is possible to comply fully with a requirement but still not meet its intent. The phrase “to limit the probability” was therefore adopted to clearly convey the notion that the Codes do not and cannot provide absolute protection.

Defined Terms

1) The words and terms in italics in this Code shall have the following meanings:

Addition means any conditioned space that is added to an existing building and that increases the building's floor surface area by more than 10 m^2.

Air barrier assembly means the combination of air barrier materials and air barrier accessories within the environmental separator that are designed to act as a continuous barrier to the movement of air through the environmental separator.

Airflow control area means a portion of a building to which the flow of air from the heating, ventilating or air-conditioning air distribution system can be reduced or stopped without reducing or stopping the flow of air to other portions of the building.

Annual energy consumption means the annual sum of the lighting, service water heating and space-conditioning energy consumption of the proposed building design, as calculated in accordance with the requirements of Part 8 of Division B.

Assembly occupancyThe definition of this term is reproduced from the National Building Code of Canada 2010. means the occupancy or the use of a building, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink.

Authority having jurisdiction means the governmental body responsible for the enforcement of any part of this Code or the official or agency designated by that body to exercise such a function.

Boiler means an applianceThe definition of this term can be found in the National Building Code of Canada 2010. intended to supply hot water or steam for space or service water heating purposes, except storage-type service water heaters.

Building means any structure used or intended for supporting or sheltering any use or occupancy.

Building area means the greatest horizontal area of a building above grade within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of firewalls.

Building energy target means the annual energy consumption of a hypothetical replica of the proposed building, using the same energy sources for the same functions and having the same environmental requirements, occupancy, climatic data and operation schedules as the proposed building, but made to comply with all applicable prescriptive requirements of this Code.

Building envelope means the collection of components that separate conditioned space from unconditioned space, the exterior air or the ground, or that separate conditioned spaces intended to be conditioned to temperatures differing by more than 10°C at design conditions. (See Appendix A.)

Building height (in storeys) means the number of storeys contained between the roof and the floor of the first storey.

Ceiling height (CH) means the average height of the ceiling where there is a ceiling and the average height of the base of the installed luminaires where there is no ceiling.

Coefficient of performance (COP) means, for a heat pump in the heating mode, the ratio of the rate of net heat output to the total energy input expressed in consistent units and under designated rating conditions, as described in the standards referenced in this Code; for refrigerating equipment or a heat pump in the cooling mode, COP means the ratio of the

rate of heat removal to the rate of energy input in consistent units and under designated rating conditions, as described in the standards referenced in this Code.

Combustion efficiency (E_c) means a measure of the efficiency of fuel-burning equipment in converting fuel to heat, as obtained through the procedures described in the standards referenced in this Code.

Conditioned space means any space within a building, the temperature of which is controlled to limit variation in response to the exterior ambient temperature by the provision, either directly or indirectly, of heating or cooling over substantial portions of the year.

Dwelling unit means a suite operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

Enclosed space means a volume substantially surrounded by solid surfaces such as full-height walls or partitions, floors, ceilings, and openable devices such as doors and operable windows.

Energy-efficiency ratio (EER) means, for refrigerating equipment or a heat pump in the cooling mode, the ratio of net cooling capacity in Btu/h to the total rate of electric input in watts, under designated operating conditions, as described in the standards referenced in this Code.

Energy factor (EF) means a measure of overall energy efficiency in terms of energy output compared to energy consumption over a 24-h usage cycle and is obtained as described in the standards referenced in this Code.

Exhaust duct means a duct through which air is conveyed from an interior space to the outdoors or to unconditioned space.

Exit means that part of a means of egress, including doorways, that leads from the floor area it serves, to a separate building, an open public thoroughfare, or an exterior open space protected from fire exposure from the building and having access to an open public thoroughfare.

Exterior entrance means a doorway used for entering, or for entering and exiting, a building, that leads from an exterior space to a space provided with interior lighting.

Exterior exit means a doorway used only for exiting from an area provided with interior lighting to an exterior space.

Exterior lighting means lighting other than interior lighting.

Facade lighting means lighting installed to highlight features of the principal front of a building or a face of a building that overlooks a street or open space and includes lighting installed on the facade and on constructed or natural surfaces in close proximity to the facade. Facade lighting does not include signage or other lighting installed on the facade that is intended to light exterior spaces or surfaces other than the facade.

Farm building means a building or part thereof that does not contain a residential occupancy and that is associated with and located on land devoted to the practice of farming, and used essentially for the housing of equipment or livestock, or the production, storage or processing of agricultural and horticultural produce or feeds.

Fenestration means all building envelope assemblies, including their frames, that transfer visible light, such as windows, clerestories, skylights, translucent wall panels, glass blocks, transoms, sidelights, sliding, overhead or swinging glass doors, and glazed inserts in doors, etc.

First storey means the uppermost storey having its floor level not more than 2 m above grade.

Floor surface area means the area of a floor surface, including heated garages, measured from the interior surface of the perimeter walls at or near floor level, including the area occupied by columns, interior walls and openings in the floor.

Foundation means a system or arrangement of foundation units through which the loads from a building are transferred to the supporting soil or rock.

Frame in a door, window or other glazed area means the associated head, jambs, sill and, where applicable, mullions which, when assembled, house the door, sash or fixed glazing.

Furnace means a space-heating appliance using warm air as the heating medium and usually having provision for the attachment of ducts.

General lighting means lighting that provides primary illumination throughout an interior area. General lighting shall not include decorative lighting or lighting that provides a dissimilar level of illumination within that area to serve a specialized application or feature.

Grade means the lowest of the average levels of finished ground adjoining each exterior wall of a building, except that localized depressions need not be considered in the determination of average levels of finished ground. (See First storey.)

Gross lighted area means the total area served by interior lighting, including the areas occupied by partitions but excluding areas occupied by exterior enclosing assemblies and by elevator and service shafts. (See Appendix A.)

Heat trap means an energy-conserving arrangement of the water piping entering or leaving a service water heater constructed to counteract the convective forces of the hot water (thermosyphoning) during standby periods.

Installed interior lighting power means the power, in watts, used by all the lighting systems that are part of the complete interior lighting design.

Integrated coefficient of performance (ICOP) means a single-number figure of merit expressing cooling part-load COP efficiency for commercial unitary air-conditioning and heat pump equipment that is based on weighted operation at various load capacities of the equipment (analogous to IEER).

Integrated energy-efficiency ratio (IEER) means a single-number figure of merit expressing cooling part-load energy efficiency for air-conditioning and heat pump equipment that is based on weighted operation at various load capacities of the equipment, as described in the standards referenced in this Code.

Integrated part-load value (IPLV) means a single-number figure of merit based on part-load energy-efficiency ratio or coefficient of performance expressing part-load efficiency for air-conditioning and heat pump equipment that is based on weighted operation at various load capacities of the equipment, as described in the standards referenced in this Code.

Interior lighting means

a. lighting installed in spaces that are within the building envelope, and
b. lighting installed in unconditioned or conditioned spaces that are sheltered from the outdoor environment and intended to light only those spaces, except for lighting at exterior entrances and exterior exits.

(See Appendix A.)

Interior lighting power allowance means the maximum lighting power allowed to be

provided to illuminate the interior of a building.

Landscape lighting means lighting installed to highlight landscape elements, such as trees, shrubs, rocks and pools. Landscape lighting does not include lighting of exterior spaces or walkways.

Occupancy means the use or intended use of a building or part thereof for the shelter or support of persons, animals or property.

Occupant sensor means a device that detects the presence of people within an area and causes lighting, equipment or appliances to be regulated accordingly.

Opaque building assembly means a building assembly that is part of the building envelope, other than doors, and does not admit light.

Overall thermal transmittance (U-value) means the rate, in $W/(m^2 \cdot K)$, at which heat is transferred through a building assembly that is subject to a temperature difference. It represents the amount of heat transferred through a unit area in a unit of time induced under steady-state conditions by a unit temperature difference between the environments on its two faces. The U-value reflects the capacity of all elements to transfer heat through the thickness of the assembly, as well as, for instance, through air films on both faces of above-ground components. Where heat is not transferred homogeneously across the area being considered, the overall thermal transmittance shall be determined. (See Appendix A.)

Partition means an interior wall one storey or part-storey in height that is not loadbearing.

Plenum means a chamber forming part of an air duct system.

Primary system means the combination of equipment working as a system that converts electricity or fuel to heating or cooling and may distribute it to one or more secondary systems (e.g. boilers and chillers), where such equipment is not already defined as part of the secondary system.

Repair garage means a building or part thereof where facilities are provided for the repair or servicing of motor vehicles.

Return duct means a duct for conveying air from a space being heated, ventilated or air-conditioned back to the heating, ventilating or air-conditioning appliance.

Sash means an assembly of secondary framing members that fits within the primary frame of a window and whose main purpose is to hold and support the glass in operable windows; however, a sash is often included in fixed windows to maintain a uniform appearance with operable windows.

Seasonal energy-efficiency ratio (SEER) means the total cooling, in Btu, provided by a central air conditioner or heat pump during its normal annual usage period for cooling, divided by its total electric power usage, in watt-hours, during that same period.

Secondary system means a system that provides air for the purposes of ventilating, heating and cooling a thermal block (e.g. fan system). Secondary systems may include dedicated equipment that converts electricity or fuel to heating or cooling. Secondary systems can be single-zone—serving only a single thermal block—or multiple-zone—serving one or more thermal blocks.

Service room means a room provided in a building to contain equipment associated with building services. (See Appendix A.)

Service water means water for plumbing systems, but not water for systems used exclusively for space-heating or -cooling, or for processes.

Sidelighting means the illumination of building interiors with daylight admitted through fenestration located on an exterior wall, such as windows.

Skylight means a form of fenestration that is inclined less than 60° from the horizontal.

Space heater means a space-heating appliance for heating the room or space within which it is located, without the use of ducts.

Standby losses (SL) are the heat losses incurred by a storage-type service water heater under a stable condition when no water is withdrawn from the tank and the water temperature is held constant by the thermostats.

Storage-type service water heater means a service water heater with an integral hot water storage tank.

Storey means that portion of a building that is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it.

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes dwelling units, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories, as well as individual stores and individual or complementary rooms for business and personal services occupancies . (See Appendix A.)

Supply air handler means that part of a heating, ventilating and air-conditioning system that conditions return air and/or outdoor air and delivers it to the supply ducts.

Supply duct means a duct for conveying air from a heating, ventilating or air-conditioning appliance to a space to be heated, ventilated or air-conditioned.

Temperature-control zone means a space that is controlled by an individual temperature-control device.

Theatre means a place of public assembly intended for the production and viewing of the performing arts or the screening and viewing of motion pictures, and consisting of an auditorium with permanently fixed seats intended solely for a viewing audience.

Thermal block means a space or group of spaces that is considered as one homogeneous space for modeling purposes. A thermal block shall be:

a. one temperature-control zone,

b. a group of temperature-control zones

i. that are served by the same secondary system or by systems that can be considered to be identical,

ii. that are operated and controlled in the same way, and

iii. whose space use and envelope characteristics are sufficiently similar that the heating and cooling energy consumption obtained by modeling the group of zones as a thermal block is not significantly different from what would be obtained by summing the results for the individual zones modeled separately, or

c. a zone consisting entirely of indirectly conditioned spaces.

Thermal efficiency (E_t) means a measure of the efficiency of fuel-burning equipment in converting fuel to heat, as obtained through the procedures described in the standards referenced in this Code.

Toplighting means the illumination of building interiors with daylight admitted through fenestration located on the roof, such as skylights and rooftop monitors.

Unit heater means a suspended space heater with an integral air-circulating fan.

Objectives

1) The objectives of this Code are as follows (see Appendix A):

OE Environment

An objective of this Code is to limit the probability that, as a result of the design or construction of the building, the environment will be affected in an unacceptable manner.

OE1 Resources

An objective of this Code is to limit the probability that, as a result of the design or construction of the building, resources will be used in a manner that will have an unacceptable effect on the environment. The risks of unacceptable effect on the environment due to use of resources addressed in this Code are those caused by—

OE1.1 - excessive use of energy

Functional Statements

1) The objectives of this Code are achieved by measures, such as those described in the acceptable solutions in Division B, that are intended to allow the building or its elements to perform the following functions (see Appendix A):

F90 To limit the amount of uncontrolled air leakage through the building envelope.

F91 To limit the amount of uncontrolled air leakage through system components.

F92 To limit the amount of uncontrolled thermal transfer through the building envelope.

F93 To limit the amount of uncontrolled thermal transfer through system components.

F94 To limit the unnecessary demand and/or consumption of energy for lighting.

F95 To limit the unnecessary demand and/or consumption of energy for heating and cooling.

F96 To limit the unnecessary demand and/or consumption of energy for service water heating.

F97 To limit the unnecessary demand and/or consumption of energy for electrical equipment and devices.

F98 To limit the inefficiency of equipment.

F99 To limit the inefficiency of systems.

F100 To limit the unnecessary rejection of reusable waste energy.

Intent Statements: NECB 2011

Provision: 3.1.1.1.(1)

Intent(s)

Intent 1. To state the scope of Part 3.

Provision: 3.1.1.2.(1)

Intent(s)

Intent 1. To state the application of Part 3.

Provision: 3.1.1.3.(1)

Intent(s)

Intent 1. To state the methods of compliance with Part 3.

Intent 2. To direct Code users to Section 3.2. for the prescriptive path requirements, Section 3.3. for the trade-off path requirements, and Section 3.4. for the building energy performance compliance path requirements.

Provision: 3.1.1.4.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 3.1.1.5.(1)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal characteristics of building envelope materials will be determined incorrectly, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.5.(2)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal characteristics of building envelope materials will be determined incorrectly, which could lead to excessive thermal transfer through the building envelope,

which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.5.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of fenestration and doors will be determined incorrectly, which could lead to the underestimation of overall thermal transmittance values, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.5.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of fenestration and doors will be determined incorrectly, which could lead to the underestimation of overall thermal transmittance values, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.5.(5)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that tests to determine the thermal characteristics of building assemblies other than fenestration and doors will be conducted incorrectly or that the thermal characteristics will be improperly determined, which could lead to the underestimation of overall thermal transmittance values, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.6.(1)

Intent(s)

Intent 1. To define which components to include in the calculation of areas of fenestration and doors.

Provision: 3.1.1.6.(2)

Intent(s)

Intent 1. To define how to measure fenestration made of flat panes not in the same plane or made of curved panes for the purpose of calculating its area.

Provision: 3.1.1.6.(3)

Intent(s)

Intent 1. To define which components to include in the calculation of gross wall area.

Provision: 3.1.1.6.(4)

Intent(s)

Intent 1. To clarify the basis on which to calculate allowable areas of fenestration and doors of additions.

Provision: 3.1.1.6.(5)

Intent(s)

Intent 1. To define which components to include in the calculation of gross roof area.

Provision: 3.1.1.7.(1)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal bridging effect of closely-spaced, repetitive structural members and ancillary members will not be accounted for in the calculation of the overall thermal transmittance of assemblies, which could lead to the underestimation of the overall thermal transmittance of assemblies, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.7.(2)

Intent(s)

Intent 1. To permit the exclusion of the thermal bridging effect of major structural elements that partly penetrate the building envelope but do not significantly affect the overall thermal transmittance at the projected area from the calculation of the overall thermal transmittance of assemblies.

Provision: 3.1.1.7.(3)

Intent(s)

Intent 1. To permit the exclusion of the effects of minor structural elements and building components that completely penetrate the building envelope but do not significantly affect the overall thermal transmittance at the projected area from the calculation of the overall thermal transmittance of assemblies.

Provision: 3.1.1.7.(4)

Intent(s)

Intent 1. To permit the exclusion of the effects of major structural elements and building components that must completely penetrate the building envelope to perform their intended function, where the cumulative area of the penetrations is limited so as to minimize their impact on the overall thermal transmittance, from the calculation of the overall thermal transmittance of assemblies.

Provision: 3.1.1.7.(5)

Intent(s)

Intent 1. To state the overall thermal transmittance of unconditioned enclosures protecting a building envelope component.

Provision: 3.1.1.7.(6)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that all related structural framing will not be included in the calculation of the overall thermal resistance of roof assemblies, which could lead to the underestimation of the overall thermal transmittance of the assemblies, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.7.(7)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that roof elements will be considered as wall elements, which could lead to the underestimation of their overall thermal transmittance, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that wall elements will be considered as roof elements, which could lead to the underestimation of their overall thermal transmittance, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.1.1.7.(8)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the structural framing and perimeter areas of intersecting interior walls will not be considered in the calculation of the overall thermal transmittance of wall assemblies, which could lead to the underestimation of the overall thermal transmittance of wall assemblies, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To clarify that the perimeter areas where floor or roof slabs interrupt the wall construction are not to be included in the calculation of the overall thermal transmittance of wall assemblies on the basis that their effect is addressed in Sentence 3.1.1.7.(9).

Provision: 3.1.1.7.(9)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the structural framing will not be considered in the calculation of the overall thermal transmittance of floor assemblies, which could lead to the underestimation of the overall thermal transmittance of floor assemblies, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.1.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the design of the building envelope will increase the overall thermal transmittance of insulation due to air leakage or convective effects, wetting, or moisture bypassing the plane of thermal resistance, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.1.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the design of the building envelope will not adequately account for the effects of air leakage or convection, wetting or moisture bypassing the plane of thermal resistance on the performance of the insulation, which could lead to excessive thermal transfer, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.2.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the continuity of insulation will be broken, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the overall thermal transmittance of the building envelope will be increased at their projected area where interior building components intersect with components of the building envelope, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.2.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the continuity of insulation will be broken, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.2.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the continuity of insulation will be broken, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt building elements that are impractical to insulate from the prescribed insulation requirements.

Provision: 3.2.1.2.(4)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the continuity of insulation will be broken, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.2.(5)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of the building envelope will be increased where mechanical and electrical system components are placed within and parallel to the building envelope, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.2.(6)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the continuity of insulation will be broken, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt from the requirements of Sentence 3.2.1.2.(4) joints whose function would be compromised if their insulation were extended beyond the intersecting assembly.

Provision: 3.2.1.3.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of certain building assemblies will be incorrectly calculated, which could lead to the underestimation of the overall thermal transmittance, which could lead to excessive thermal transfer through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the overall thermal transmittance of certain building assemblies will be unacceptably high, which could lead to excessive thermal transfer through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.4.(1)

Objective
OE1

Attributions
[F92, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building will not have a limit on fenestration and door openings through the exterior wall, which could lead to an overall thermal transmittance that is unacceptably high, which could lead to uncontrolled thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.1.4.(2)

Objective
OE1

Attributions
[F92, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building will not have a limit on skylight openings through the roof, which could lead to an overall thermal transmittance that is unacceptably high, which could lead to uncontrolled thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.2.1.(1)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that an air lock will not be created, which could lead to the infiltration of unconditioned air into conditioned space, which could lead to uncontrolled air leakage through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that a door will not return to the closed position after each use, which could lead to the infiltration of unconditioned air into conditioned space, which could lead to uncontrolled air leakage through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.2.1.(2)

Objective

OE1

Attributions

[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the configuration of vestibules will require users to open both the interior and exterior doors at the same time, which could lead to uncontrolled transfer of conditioned air through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.2.1.(3)

Intent(s)

Intent 1. To exempt certain doors from the application of Sentence 3.2.2.1.(1), where

- a vestibule is not justifiable for reasons of function,
- the door is rarely used as a service or emergency exit door,
- the door is only used seasonally,
- the size of the space the door serves is sufficiently small such that the vestibule would occupy an unacceptably large part of the usable space, or
- the building is in a warmer climate zone, and as such, a vestibule would result in minimal energy gains and is therefore not justifiable, and the building is small to mid-size making the installation of a vestibule uneconomical.

Provision: 3.2.2.2.(1)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of above-ground walls, roofs and floors will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.2.2.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To clarify that portions of a foundation wall that are above ground and where the top of the foundation wall is less than 0.4 m above the adjoining ground level are permitted to be treated as above-ground walls .

Provision: 3.2.2.2.(3)

Objective
OE1

Attributions
[F92, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of above-ground walls, roofs and floors with radiant heating cables, heating or cooling pipes or membranes embedded in their surface will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to unnecessary energy consumption for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To supersede the requirement of Sentence 3.2.2.2.(1) and require a more stringent overall thermal transmittance where thermal transfer could be increased due to the presence of radiant heating cables, heating or cooling pipes or membranes.

Provision: 3.2.2.3.(1)

Intent(s)

Intent 1. To clarify that the fenestration thermal characteristics provided in Article 3.2.2.3. do not apply to doors.

Intent 2. To direct Code users to Article 3.2.2.4. for the thermal characteristics of doors.

Provision: 3.2.2.3.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of fenestration will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To direct Code users to Article 3.1.1.5. for the applicable standards to determine the overall thermal transmittance of fenestration.

Provision: 3.2.2.3.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of skylights exempted from the requirements of Sentence 3.2.2.3.(2) will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt certain skylights from the requirement of Sentence 3.2.2.3.(2), which would otherwise require all skylights to have the same overall thermal transmittance requirements as fenestration, on the basis that skylights would currently have difficulty meeting the fenestration requirements and some flexibility is needed.

Intent(s)

Intent 1. To direct Code users to Article 3.1.1.6. for the calculation procedures for gross roof area.

Provision: 3.2.2.4.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of doors will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead toexcessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To direct Code users to Article 3.1.1.5. for the applicable standards to determine the overall thermal transmittance of doors.

Provision: 3.2.2.4.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of doors exempted from the requirements of Sentence 3.2.2.4.(1) will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt certain doors from the requirements of Sentence 3.2.2.4.(1), which would otherwise require all doors to have the same overall thermal transmittance, on the basis that some doors, due to their function, would currently have difficulty meeting the door requirements and some flexibility is needed.

Intent(s)

Intent 1. To direct Code users to Article 3.1.1.6. for the calculation procedures for gross wall area.

Provision: 3.2.2.4.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the nominal thermal transmittance of access hatches will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To clarify that stiffeners and edge construction are not to be included in the determination of the nominal thermal transmittance of access hatches.

Provision: 3.2.2.4.(4)

Intent(s)

Intent 1. To exempt certain types of doors from the requirements of Sentence 3.2.2.4.(1), on the basis that they typically can't achieve the performance levels of other doors due to their function and properties.

Provision: 3.2.3.1.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of below-ground walls or portions thereof will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.1.(2)

Objective
OE1

Attributions
[F92, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To supersede the requirements of Sentence 3.2.3.1.(1) and require a more stringent overall thermal transmittance where thermal transfer could be increased due to the presence of radiant heating cables, heating or cooling pipes or membranes.

Provision: 3.2.3.1.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulation on walls in contact with the ground will not extend to a sufficient depth, which could lead to the overall thermal transmittance being unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.1.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that insulation will not extend horizontally a sufficient distance, which could lead to the overall thermal transmittance being unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.2.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the overall thermal transmittance of below-ground roofs will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.3.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the overall thermal transmittance of certain floors will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.3.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the overall thermal transmittance of certain floors-on-ground will be unacceptably high at the perimeter, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.3.(3)

Objective
OE1

Attributions
[F92, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of certain floors-on-ground will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to unnecessary energy consumption for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the extent of the insulation under certain floors-on-ground will be insufficient in cases where thermal transfer could be increased due to the presence of radiant heating cables, heating or cooling pipes or membranes, which could lead to excessive thermal transfer through the building envelope, which could lead to unnecessary energy consumption for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.3.3.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the overall thermal transmittance of certain floors-on-ground will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)
Intent 1. To exempt certain installations of insulation from the prescribed requirement to extend the floor insulation vertically around the perimeter of the floor, on the basis that the insulation already provided is sufficient.

Provision: 3.2.4.1.(1)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)
Intent 1. To limit the probability that the building envelope will not be designed and constructed with a continuous air barrier system, which could lead to uncontrolled air leakage through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.4.2.(1)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that opaque building assemblies will not include an air barrier assembly, which could lead to uncontrolled air leakage through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt opaque building assemblies that do not separate dissimilar environments from the requirement to include an air barrier assembly, on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.3.(1)

Intent(s)

Intent 1. To clarify that the fenestration air leakage requirements provided in Article 3.2.4.3. do not apply to doors.

Intent 2. To direct Code users to Article 3.2.4.4. for the air leakage requirements for doors.

Provision: 3.2.4.3.(2)

Objective

OE1

Attributions

[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the air leakage rate of certain curtain walls will be unacceptably high, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt certain curtain walls that do not separate dissimilar environments from the air leakage rate requirement, on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.3.(3)

Objective

OE1

Attributions

[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the air leakage rate of certain fixed windows and skylights will be unacceptably high, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt fixed windows and skylights that do not separate dissimilar environments from the air leakage rate requirement, on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.3.(4)

Objective

OE1

Attributions

[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the air leakage rate of certain operable windows and skylights will be unacceptably high, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt operable windows and skylights that do not separate dissimilar environments from the air leakage rate requirement, on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.4.(1)

Objective

OE1

Attributions

[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the air leakage rate of doors will be unacceptably high, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt doors that do not separate dissimilar environments from the air leakage rate requirement, on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.4.(2)

Intent(s)

Intent 1. To supersede the requirement of Sentence 3.2.4.4.(1) and allow a higher air leakage rate for revolving doors, automatic commercial sliding doors, and overhead doors that separate dissimilar environments, on the basis that the more stringent rate would compromise their function.

Intent 2. To exempt revolving doors, automatic commercial sliding doors, and overhead doors that do not separate dissimilar environments from the air leakage rate requirement of Sentence 3.2.4.4.(1), on the basis that air leakage under these circumstances does not result in thermal loss.

Provision: 3.2.4.4.(3)

Intent(s)

Intent 1. To supersede the requirement of Sentence 3.2.4.4.(1) and allow a higher air leakage rate for main entry exterior doors, on the basis that their cumulative area is limited and, as such, their impact on overall air leakage is minimal.

Intent 2. To exempt main entry exterior doors that do not separate dissimilar environments from the air leakage rate requirement of Sentence 3.2.4.4.(1), on the basis that air leakage under these circumstances does not result in thermal loss.

Intent 3. To direct Code users to Article 3.1.1.6. for the calculation procedures for gross wall area.

Provision: 3.2.4.4.(4)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that the truck box will not be sealed to the building, which could lead to the infiltration of unconditioned air into conditioned spaces, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.2.4.5.(1)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that, when the fireplace is not in use, air movement in the chimney will be unacceptably high, which could lead to uncontrolled air leakage through the environmental separator, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.1.(1)

Intent(s)

Intent 1. To state the scope of Section 3.3.

Intent 2. To direct Code users to Sentences 3.3.1.1.(2)and 3.3.1.1.(3) for limitations on the trade-off compliance path.

Provision: 3.3.1.1.(2)

Objective
OE1

Attributions
[F92, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the overall thermal transmittance of building envelope assemblies that have heating or cooling systems embedded in them will be unacceptably high, which could lead to excessive thermal transfer through the building envelope, which could lead to inaccuracy of the trade-off model, which could lead to the underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.1.(3)

Objective
OE1

Attributions
[F91, F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that better performance than required by the Code for the protection of insulation, provisions for vestibules, or air leakage will be used in the building envelope trade-off calculations, which could lead to inaccuracy of the trade-off model, which could lead to excessive thermal transfer through the building envelope, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.1.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the superior energy efficiency of building envelope components of the proposed building compared to the levels set by the prescriptive requirements of Section 3.2. will be credited where their performance cannot be quantified or is dependent on occupant interaction, which cannot be mandated by the Code,, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.2.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the Part 3 trade-off compliance path will be used in cases where there is insufficient information about the building components or the occupancy is unknown to accurately model the reference and proposed buildings, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.2.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that buildings whose construction varies from the proposed design will not have their performance reassessed, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.2.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the Part 3 trade-off compliance path will be used for multiple individual buildings at a time, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.2.(4)

Intent(s)

Intent 1. To modify the application of Sentence 3.3.1.2.(3), and allow the Part 3 trade-off compliance path to be used for structures divided into multiple buildings, on the basis that they can be accurately modeled for energy performance.

Provision: 3.3.1.3.(1)

Intent(s)

Intent 1. To define the term "reference building" in the context of Section 3.3.

Intent 2. To direct Code users to Section 3.2.

Provision: 3.3.1.3.(2)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface areas of above-ground roof assemblies will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.3.(3)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface areas of exterior above-ground wall assemblies will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.3.(4)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface areas of above-ground exterior floor assemblies will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed

building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.3.(5)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface areas of roof assemblies in contact with the ground will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.3.(6)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface areas of wall assemblies in contact with the ground will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.1.3.(7)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface areas of floor assemblies in contact with the ground will be incorrectly determined, which could lead to overestimation of the amount of energy used by the reference building envelope, which could lead to excessive consumption of energy by the proposed building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.2.1.(1)

Intent(s)
Intent 1. To state the options for compliance with Section 3.3.

Provision: 3.3.3.1.(1)

Intent(s)

Intent 1. To state the scope of the simple trade-off path.

Provision: 3.3.3.1.(2)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the simple trade-off method will be used for buildings whose set-point temperature is below 18°C, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.3.1.(3)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the simple trade-off method will be applied to additions, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.3.1.(4)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the simple trade-off method will be used to transfer between orthogonal assemblies, which could lead to equating unequal rates of thermal transfer, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.3.1.(5)

Objective

OE1

Attributions

[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the simple trade-off method will be used to transfer between orthogonal assemblies, which could lead to equating unequal rates of thermal transfer, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.3.2.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the sum of the areas of certain assemblies of the reference building will not equal the sum of those same areas of the proposed building, which could lead to inappropriate application of the simple trade-off method, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.3.2.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy use attributed to the building envelope of the proposed building will exceed the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.1.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy use attributed to the building envelope of the proposed building will exceed the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.1.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy use attributed to the building envelope of the proposed building will exceed the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.1.(3)

Intent(s)

Intent 1. To modify the application of Section 3.2. and permit a reduction in building envelope performance in the proposed building, in cases where the set-point temperature is lower than 18°C and the heating system to be installed in the proposed building is not capable of providing an appreciably higher set-point than that shown in the specifications.

Provision: 3.3.4.2.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that building envelope components will not be accounted for in accordance with Section 3.2. when establishing the building envelope energy target for the reference building, which could lead to overestimation of the building envelope energy target, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.2.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy use attributed to the building envelope of the proposed building will exceed the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.3.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the detailed trade-off compliance calculations will be incorrectly applied in the case of additions, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.3.(2)

Intent(s)

Intent 1. To clarify the application of Clause 3.3.4.3.(1)(b) and that the detailed trade-off compliance calculations for additions include consideration of the existing building's vertical fenestration and door to gross wall area ratio in determining the building envelope energy target.

Provision: 3.3.4.3.(3)

Intent(s)

Intent 1. To clarify the application of Clause 3.3.4.3.(1)(b) and that the detailed trade-off compliance calculations for additions include consideration of the existing building's skylight area to gross roof area ratio in determining the building envelope energy target.

Provision: 3.3.4.4.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the assessment of compliance with the detailed trade-off path will be performed incorrectly, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.4.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model calculations will be performed for a time period that is insufficiently long to represent the annual performance or over intervals that are too large to provide accurate results, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.4.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the schedules and climatic data for the energy model will use intervals that are too large to provide accurate results, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.4.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the calculation methods will not meet a level set by an industry-recognized standard, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.5.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate or insufficient climatic data will be used in the energy model calculations, which could lead to inaccuracy in the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.5.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate or insufficient climatic data will be used in the energy model calculations, which could lead to inaccuracy in the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.6.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effects of thermal mass will not be accounted for in the energy model, which could lead to inaccuracy in the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.7.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the model will not perform a dynamic calculation of space temperatures that accounts for all effects, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.8.(1)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not account for heat transfer through all relevant building envelope elements, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the dynamic response due to thermal characteristics of the building envelope assemblies will not be accounted for in the energy model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.8.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effect of solar radiation on heat transfer through walls and roofs will not be accounted for in the energy model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference

building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.8.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that heat transfer through fenestration, including skylights, will not be appropriately accounted for in the energy model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.8.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the impacts of solar radiation through fenestration on the heating and cooling loads will not be appropriately accounted for, which could lead to inaccuracy of the model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building or overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(1)

Intent(s)
Intent 1. To state the application of Article 3.3.4.9.

Provision: 3.3.4.9.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the energy model will not be consistent with the specifications of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which

could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not be consistent with the specifications of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not be consistent with the specifications of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(5)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the solar absorptance of the opaque envelope components of the proposed building will be set at an inappropriate value, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(6)

Objective
OE1

Attributions
[F90-OE1.1]

Intent(s)

Intent 1. To limit the probability that air leakage through the building envelope of the proposed building will be set at an inappropriate value, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(7)

Objective
OE1

Attributions
[F92, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate values will be used as the space-heating set-point, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(8)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate values will be used as the space-cooling set-point, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(9)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that components, loads, schedules and parameters that are not related to the building envelope will be incorporated into the trade-off model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead toexcessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(10)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that energy used by components and equipment that are not part of the building envelope will be incorporated into the trade-off model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(11)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the space heating of the proposed building will be set to a resistance other than electricwith an inappropriate heating set-point temperature, which could lead to different energy use for heating for the proposed and reference buildings being incorporated into the calculations, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(12)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the space cooling of the proposed building will be set to a resistance other than electric direct expansion with a COP of 1.0 and with an inappropriate cooling set-point temperature, which could lead to different energy use for cooling for the proposed and reference buildings being incorporated into the calculations, which could lead to inaccuracy of the trade-off model, which

could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(13)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that components and equipment that are not part of the building envelope will be incorporated into the trade-off model, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(14)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the existing building will not be included with the addition in the energy model calculations, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.9.(15)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the annual energy consumption of the proposed building's building envelope will be incorrectly calculated, which could lead to inaccuracy of the trade-off model, which could lead to underestimation of the energy use attributed to the building envelope of the proposed building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(1)

Intent(s)

Intent 1. To state the application of Article 3.3.4.10.

Provision: 3.3.4.10.(2)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model of the reference building envelope will not be consistent with the specifications of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the building envelope component areas of the reference building will not be set at the prescriptive total vertical fenestration and door area to gross wall area ratio and will not have a reasonable allowance for the skylight area to gross roof area ratio, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model of the reference building envelope will not accurately reflect the characteristics of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the energy model of the reference building envelope will not accurately reflect the minimum performance levels prescribed by the prescriptive path, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(4)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the energy model of the reference building envelope will not accurately reflect the characteristics of the proposed building, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(5)

Intent(s)
Intent 1. To specify that the reference building be modeled with light-weight construction so that the effects of thermal mass in the proposed building may be taken into account.

Provision: 3.3.4.10.(6)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the space heating set-point and schedule for the reference building will not match those for the proposed building, which could lead to differences in energy use for the proposed and reference buildings, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)
Intent 1. To direct Code users to Sentence 3.3.4.9.(7) for the space-heating set-point and schedule.

Provision: 3.3.4.10.(7)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the space-cooling set-point and schedule for the reference building will not match those for the proposed building, which could lead to differences in energy use for the

proposed and reference buildings, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(8)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that energy used by components and equipment that are not part of the building envelope will be incorporated into the trade-off model, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(9)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the space heating of the reference building will be set to a resistance other than electric with an inappropriate heating set-point temperature, which could lead to different energy use for heating for the proposed and reference buildings being incorporated into the calculations, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(10)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that the space cooling of the reference building will be set to a resistance other than electric direct expansion with a COP of 1.0 and with an inappropriate cooling set-point temperature, which could lead to different energy use for cooling for the proposed and reference buildings being incorporated into the calculations, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference

building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(11)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that components and equipment that are not part of the building envelope will be incorporated into the trade-off model, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(12)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the hourly calculations for the reference building envelope energy target will be incorrectly performed, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.3.4.10.(13)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)
Intent 1. To limit the probability that the energy target of the reference building's building envelope will be incorrectly calculated, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy use attributed to the building envelope of the reference building, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 3.4.1.1.(1)

Intent(s)
Intent 1. To direct Code users to Part 8.

Provision: 3.4.1.2.(1)

Objective
OE1

Attributions
[F92, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the overall thermal transmittance of building envelope assemblies that have radiant heating cables, heating or cooling pipes or membranes embedded in them will exceed the prescriptive limits, which could lead to excessive thermal transfer through the building envelope, which could lead to inaccuracy of the trade-off model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the design of the building envelope will not ensure the performance of the insulation by preventing the increase of overall thermal transmittance due to the effects of air leakage or convection, wetting, or moisture bypassing the plane of thermal resistance, which could lead to excessive thermal transfer through the building envelope, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.1.1.1.(1)

Intent(s)
Intent 1. To state the scope of Part 4.

Provision: 4.1.1.2.(1)

Intent(s)
Intent 1. To state the application of Part 4.

Provision: 4.1.1.2.(2)

Intent(s)
Intent 1. To exempt from the application of Part 4

- emergency lighting that is not operated continuously,
- lighting for dwelling units, as automatic controls are not compatible with the functional requirements for dwelling units and much of lighting in dwelling units is provided by plug-in fixtures, which is beyond the mandate of the Code, and
- applications where, due to the nature of the occupancy, it is impractical to apply these requirements.

Provision: 4.1.1.3.(1)

Intent(s)
Intent 1. To state the methods of compliance with Part 4.

Intent 2. To direct Code users to Section 4.2. for the prescriptive path requirements, Section 4.3. for the trade-off path requirements, and Section 4.4. for the building energy performance compliance path requirements.

Provision: 4.1.1.4.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 4.2.1.1.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the power requirements for lighting units for exit signs will be excessive, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.2.(1)

Objective
OE1

Attributions
[F94, F98-OE1.1]

Intent(s)

Intent 1. To limit the probability that ballasts for fluorescent lamps will not meet minimum efficacy levels, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.2.(2)

Objective
OE1

Attributions
[F94, F98-OE1.1]

Intent(s)

Intent 1. To limit the probability that electronic ballasts for fluorescent lamps will not meet minimum efficacy levels, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.3.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that power used for lighting will exceed acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the determination of the interior lighting power allowance will not be based on recognized methods, which could lead to incorrect values of the interior lighting power allowance, which could lead to excessive installed interior lighting power, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To direct Code users to Article 4.2.1.4. for the determination of installed interior lighting power, Article 4.2.1.5. for the calculation of interior lighting power allowance using the building area method, and Article 4.2.1.6. for the calculation of interior lighting power allowance using the space-by-space method.

Provision: 4.2.1.3.(2)

Intent(s)

Intent 1. In using the space-by-space method, to allow the installed interior lighting power in individual spaces to exceed their interior lighting power allowances, provided that the total of the installed interior lighting power for all spaces in the building does not exceed the total interior lighting power allowance for the building.

Provision: 4.2.1.3.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that incompatible methods of determination of the interior lighting power allowance will be combined, which could lead to incorrect values of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.4.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of installed interior lighting power will not include all relevant luminaires, which could lead to inaccurate determination of installed interior lighting power, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.4.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of installed lighting power will not include all relevant luminaires or will not be correctly determined for each source, which could lead to inaccurate determination of installed interior lighting power, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.4.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the luminaire wattage will not be correctly determined, which could lead to inaccurate determination of installed interior lighting power, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.4.(4)

Intent(s)

Intent 1. To exempt from the calculation of installed interior lighting power, those lighting systems whose inclusion in the calculation is considered inappropriate or impractical or would adversely affect the intended functions, or the use of the space or equipment.

Provision: 4.2.1.4.(5)

Intent(s)

Intent 1. To exempt from the calculation of installed interior lighting power, those lighting systems whose inclusion in the calculation would adversely affect the intended functions, or the use of the space or equipment.

Provision: 4.2.1.5.(1)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building area method will be used to calculate the interior lighting power allowance when it is not appropriate to do so, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.5.(2)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that theprimary use of the building will not be used to establish the interior lighting power allowance using the building area method, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.5.(3)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building area method will be used to calculate the interior lighting power allowance when it is not appropriate to do so, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption

of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.5.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building area method will be used to calculate the interior lighting power allowance by the building area method when there is no appropriate established lighting power density for the building type, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.5.(5)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of the interior lighting power allowance using the building area method will not be properly carried out, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.1.6.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of the interior lighting power allowance using the space-by-space method will not be properly carried out, which could lead to inaccurate determination of the interior lighting power allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.1.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that interior lighting in buildings will not be controlled automatically to shut off when spaces are unoccupied, which could lead to unnecessary operation of lighting in unoccupied areas, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.1.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the method of automatically shutting off lighting will not be appropriate, which could lead to operation of lighting in unoccupied areas, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.1.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that time-of-day operated automatic control devices will be overridden for long periods of time, which could lead to operation of lighting in unoccupied areas, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.1.(4)

Intent(s)

Intent 1. To exempt from the requirement for automatic shut-off controls for lighting stated in Sentence 4.2.2.1.(1), applications where

- shut off is not possible due to the continuous operations within the space,
- patient care is provided, typically resulting in unpredictability of times of operation, and
- shut off is not possible as it would endanger the safety or security of individuals.

Provision: 4.2.2.2.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that general lighting in each enclosed space will remain on when the space in unoccupied, which could lead to the unnecessary operation of lighting systems, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.2.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the type of control device installed will not be occupancy-based, which could lead to the unnecessary operation of lighting systems, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.2.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that lighting in bathrooms of guestrooms and hotel suites will not automatically turn off within an allowable time period, which could lead to the unnecessary operation of lighting systems, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt night lighting not exceeding 5 W in bathrooms of guest rooms and hotel suites from the requirement to have an automatic shut-off as the alternative to this, i.e. regular lighting, would have a much higher power draw.

Provision: 4.2.2.3.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that lighting controls for interior lighting will be located in an inconspicuous or inaccessible location, which could lead to insufficient use of the controls, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.3.(2)

Intent(s)

Intent 1. To exempt from the location requirements for lighting controls stated in Sentence 4.2.2.3.(1), those applications where the lighting will be shut off by non-manual means, or where lighting is more appropriately shut off by building staff.

Provision: 4.2.2.3.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that lighting controls in remote locations will not be visible and will not be adequately identified, which could lead to improper use of the controls, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.3.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be inadequate, inconspicuous and inaccessible controls for supplemental task lighting, which could lead to improper use of the controls, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.3.(5)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will not be a means of collectively controlling all permanently installed luminaires at the entry door of guestrooms in hotels, motels, boarding houses or similar buildings, which could lead to lights being left on when the room is vacated by the occupants, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt bathrooms from the master control requirement as bathrooms may be separately occupied and turning lights off remotely may have safety implications.

Provision: 4.2.2.3.(6)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will not be a means of collectively controlling all permanently installed luminaires at the entry door to a hotel suite or at the entry to each room in a hotel suite, which could lead to lights being left on when the room is vacated by the occupants, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.3.(7)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be inadequate controls for lighting, which could lead to improper use of the controls, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.3.(8)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that it will be unclear which area is controlled by which lighting control where lighting controls are grouped together, which could lead to improper use of the controls, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.4.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that electric lighting will be used when daylight is available to meet some or all of the illumination needs in enclosed spaces where skylights or rooftop monitors are installed, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. [Clauses (a) and (b)] To limit the probability that the automatic daylighting controls will not be properly calibrated, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 3. [Clause (c)] To limit the probability that the automatic daylighting controls will not adjust to available daylight, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 4. To direct Code users to Article 4.2.2.6. for the determination of total daylighted area under skylights and Article 4.2.2.7. for on the determination of total daylighted area under rooftop monitors.

Provision: 4.2.2.4.(2)

Intent(s)

Intent 1. To exempt certain locations from the requirement for automatic daylighting controls stated in Sentence 4.2.2.4.(1), where installed skylights and rooftop monitors do not provide sufficient daylight to warrant the installation of photocontrols to reduce the energy consumption of general lighting in enclosed spaces.

Provision: 4.2.2.5.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylighted area under skylights will not be correctly determined, which could lead to incorrect determination of the toplighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.5.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of the daylighted area under each skylight will not appropriately take into account the horizontal projection of daylight onto the area beneath the skylight, which could lead to the incorrect determination of the toplighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.6.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylighted area under rooftop monitors will not be correctly determined, which could lead to incorrect determination of the toplighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.6.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the determination of the daylighted area under each rooftop monitor will not appropriately take into account the horizontal projection of daylight onto the area beneath the rooftop monitor, which could lead to the incorrect determination of the toplighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.7.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the skylight effective aperture will be improperly calculated, which could lead to an unwarranted exemption from the requirements for automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.8.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that electric lighting will be used when daylight is available to meet some or all of the illumination needs in enclosed spaces with sidelighting, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. [Clauses (a) and (b)] To limit the probability that the automatic daylighting controls will not be properly calibrated, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 3. [Clause (c)] To limit the probability that the automatic daylighting controls will not adjust to available daylight in an optimal manner, which could lead to the unnecessary operation of some or all of

the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 4. To direct Code users to Article 4.2.2.9. for the determination of combined primary sidelighted area.

Provision: 4.2.2.8.(2)

Intent(s)

Intent 1. To exempt certain locations from the requirement for automatic daylighting controls stated in Sentence 4.2.2.8.(1), where their sidelighted areas do not provide sufficient daylight to warrant the installation of photocontrols to reduce the energy consumption of general lighting in enclosed spaces, or where a reduction in general lighting is not compatible with the function of the space.

Provision: 4.2.2.9.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the total primary sidelighted area will not be correctly determined, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.9.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that each primary sidelighted area will be incorrectly determined, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.9.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the primary sidelighted width will be incorrectly determined, which could lead to incorrect determination of the primary sidelighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.9.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the primary sidelighted depth will be incorrectly determined, which could lead to incorrect determination of the primary sidelighted area, which could lead to not installing appropriate automatic daylighting controls, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.2.10.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the sidelighting effective aperture will be incorrectly calculated, which could lead to an unwarranted exemption from the requirements for automatic daylighting controls, which could lead to the unnecessary operation of some or all of the general lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.3.1.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the lighting zone will be incorrectly assigned, which could lead to improperly assigning exterior lighting power allowances, which could lead to exceeding acceptable limits for exterior lighting power, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.3.1.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the basic site allowance will exceed acceptable limits, which could lead to excessive use of power for each specific building exterior application, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.3.1.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the connected exterior lighting power for each specific building exterior application will exceed acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for exterior lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.3.1.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the connected exterior lighting power for each general building exterior application will exceed acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for exterior lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.3.1.(5)

Intent(s)

Intent 1. To exempt certain exterior lighting applications from the maximum exterior lighting power allowances stated in Sentences 4.2.3.1.(1) to 4.2.3.1.(4), on the basis that a restriction on power allowance would negatively impact the ability of the lighting system to perform its function or the designer is incapable of altering the lighting.

Provision: 4.2.4.1.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)
Intent 1. To limit the probability that exterior lighting will be on when not necessary for the intended use, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.4.1.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)
Intent 1. To limit the probability that exterior lighting designated for dusk-to-dawn operation will be used outside of these hours, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.2.4.1.(3)

Intent(s)
Intent 1. To exempt certain exterior lighting applications from the requirements for controls stated in Sentences 4.2.4.1.(1) and 4.2.4.1.(2), where such lighting is required for safety, security, or eye adaptation.

Provision: 4.2.4.1.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)
Intent 1. To limit the probability that exterior lighting controllers will not be equipped with a means to backup the programming and time setting for an acceptable time period in the event of a power outage, which could lead to loss of programming and time setting, which could lead to unnecessary operation of lighting, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.1.1.(1)

Intent(s)

Intent 1. To state the application of the trade-off path for Part 4.

Provision: 4.3.1.2.(1)

Intent(s)

Intent 1. To limit the application of Sentence 4.3.1.1.(1) and not allow the prescriptive requirements of Subsection 4.2.3. and 4.2.4. and Articles 4.2.1.1. and 4.2.1.2. to be traded off.

Provision: 4.3.1.3.(1)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that power used for lighting will exceed acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.1.(1)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the installed interior lighting energy will be improperly calculated, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To clarify the meaning of the "installed interior lighting energy."

Provision: 4.3.2.1.(2)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual energy consumption for lighting in a space will be improperly calculated, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.2.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the lighting power density for a space will be improperly calculated, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.3.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylighted area of a space will be incorrectly determined, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.3.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylighted area of a space will be determined using more than one daylight source, which could lead to an overestimation of the daylighted area of a space, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.4.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the non-daylighted area of a space will be improperly calculated, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.5.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual daytime operational time of the daylighted area will be improperly calculated, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.5.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual daytime operational time of the non-daylighted area will be improperly calculated, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.5.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual nighttime operational time will be improperly calculated, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.6.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual operational time of each space during daytime will be incorrectly determined, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.6.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual operational time of each space during nighttime will be incorrectly determined, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.6.(3)

Intent(s)

Intent 1. To supersede the requirements of Sentences 4.3.2.6.(1) and 4.3.2.6.(2) and allow the annual operational times during daytime and nighttime for each space to be adjusted for the actual days of operation.

Provision: 4.3.2.7.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)
Intent 1. To limit the probability that the factor for daylight harvesting will be improperly calculated, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.7.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)
Intent 1. To limit the probability that the factor for daylight harvesting will be other than zero for spaces with no daylight supply, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.7.(3)

Intent(s)
Intent 1. To direct Code users to Article 4.3.2.8. for the determination of the daylight supply factor where sidelighting is the primary daylight supply.

Provision: 4.3.2.7.(4)

Intent(s)
Intent 1. To direct Code users to Article 4.3.2.9. for the determination of the daylight supply factor where toplighting is the primary daylight supply.

Provision: 4.3.2.7.(5)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight system control factor will be incorrectly determined, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.7.(6)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight-dependent control factor for electric lighting will be incorrectly determined, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.8.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight supply factor will be improperly calculated, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.8.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective luminous transmittance will be incorrectly determined, which could lead to an overestimation of the daylight supply factor, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.8.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the raw daylight supply factor for the rough opening will be incorrectly determined, which could lead to an overestimation of the daylight supply factor, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.8.(4)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor to account for horizontal obstructions will be incorrectly determined, which could lead to an overestimation of the daylight supply factor, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.9.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight supply factor will be incorrectly determined, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.9.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the mean daylight factor for toplighting will be improperly calculated, which could lead to overestimation of the daylight supply factor, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.9.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the room cavity ratio will be improperly calculated, which could lead to overestimation of the mean daylight factor for toplighting, which could lead to overestimation of the daylight supply factor, which could lead to an overestimation of the effective annual daytime operational time for the daylighted area, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.10.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for occupancy control will be improperly calculated, which could lead to underestimation of the effective annual operational times, which could lead to underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.2.10.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for personal control will be improperly calculated, which could lead to underestimation of the effective annual operational times, which could lead to an underestimation of the annual energy consumption for lighting in a space, which could lead to underestimation of the installed interior lighting energy, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.1.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the interior lighting energy allowance will be improperly calculated, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To clarify the meaning of "interior lighting energy allowance."

Provision: 4.3.3.1.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual energy consumption for lighting in a space will be improperly calculated, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.2.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the lighting power density for a space will be incorrectly determined, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.3.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylighted area of a space will be incorrectly determined, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.4.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the non-daylighted area of a space will be improperly calculated, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.5.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual daytime operational time of the daylighted area will be improperly calculated, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.5.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual daytime operational time of the non-daylighted area will be improperly calculated, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.5.(3)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effective annual nighttime operational time will be improperly calculated, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.6.(1)

Intent(s)

Intent 1. To expand the application of Article 4.3.2.6. to the calculation of annual operational times for the determination of the interior lighting energy allowance.

Provision: 4.3.3.7.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for daylight harvesting will be improperly calculated, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.7.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for daylight harvesting will be other than zero for spaces with no daylight supply, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy

allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.7.(3)

Intent(s)

Intent 1. To direct Code users to Article 4.3.2.8. for the determination of the daylight supply factor where sidelighting is the primary daylight supply.

Provision: 4.3.3.7.(4)

Intent(s)

Intent 1. To direct Code users to Article 4.3.2.9. for the determination of the daylight supply factor where toplighting is the primary daylight supply.

Provision: 4.3.3.7.(5)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight system control factor will be inappropriately set, which could lead to underestimation of the daylight harvesting factor, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.7.(6)

Objective

OE1

Attributions

[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight-dependent control factor for electric lighting will be inappropriately set, which could lead to underestimation of the daylight harvesting factor, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.10.(1)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for occupancy control will be improperly calculated, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area or overestimation of the effective annual operational times for the non-daylighted and nighttime areas, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.3.3.10.(2)

Objective
OE1

Attributions
[F94-OE1.1]

Intent(s)

Intent 1. To limit the probability that the factor for personal control will be other than 1, which could lead to an underestimation of the effective annual daytime operational time for the daylighted area or overestimation of the effective annual operational times for the non-daylighted and nighttime areas, which could lead to an overestimation of the annual energy consumption for lighting in a space, which could lead to overestimation of the interior lighting energy allowance, which could lead to power used for lighting exceeding acceptable limits, which could lead to excessive use of power, which could lead to unnecessary consumption of energy for lighting, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 4.4.1.1.(1)

Intent(s)

Intent 1. To direct Code users to Part 8 for the building energy performance compliance path for lighting systems.

Provision: 5.1.1.1.(1)

Attributions

Intent(s)

Intent 1. To state the scope of Part 5.

Provision: 5.1.1.2.(1)

Intent(s)

Intent 1. To state the application of Part 5.

Provision: 5.1.1.2.(2)

Intent(s)

Intent 1. To exempt from the application of Part 5, heating, ventilating or air-conditioning systems or parts thereof where it is impractical to apply these requirements.

Provision: 5.1.1.2.(3)

Intent(s)

Intent 1. To exempt from the application of Part 5, extensions of heating, ventilating or air-conditioning systems or parts thereof to an addition because of the difficulties and impracticalities of doing so.

Provision: 5.1.1.3.(1)

Intent(s)

Intent 1. To state the methods of compliance with Part 5.

Intent 2. To direct Code users to Section 5.2. for the prescriptive path requirements, Section 5.3. for the trade-off path requirements, and Section 5.4. for the building energy performance compliance path requirements.

Provision: 5.1.1.3.(2)

Intent(s)

Intent 1. To limit the method of compliance for back-up systems to the prescriptive path, on the basis that they provide minimum heating, ventilating and air-conditioning levels in the event the primary systems are compromised.

Provision: 5.1.1.4.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 5.2.1.1.(1)

Intent(s)

Intent 1. To direct Code users to the NBC for the minimum sizing requirements for heating, ventilating and air-conditioning systems to ensure that they are not compromised for the sake of energy efficiency.

Provision: 5.2.2.1.(1)

Intent(s)

Intent 1. To direct Code users to the NBC for the minimum design and installation requirements for ducts to ensure that they are not compromised for the sake of energy efficiency.

Provision: 5.2.2.2.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability of unnecessary delivery of conditioned air to areas served by an air distribution system, which could lead to unnecessary consumption of energy for heating and cooling or inefficient use of heating, cooling and ventilating fan systems which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.3.(1)

Objective
OE1

Attributions
[F91, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability of uncontrolled air leakage through ducts, plenums and their fittings that form part of a heating, ventilating or air-conditioning system, which could lead to unintended delivery of conditioned air to spaces, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.3.(2)

Objective
OE1

Attributions
[F91, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability of uncontrolled air leakage through ducts, plenums and their fittings that form part of a heating, ventilating or air-conditioning system, which could lead to unintended delivery of conditioned air to spaces, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.3.(3)

Intent(s)

Intent 1. To exempt certain return ducts from the construction, installation and sealing requirements stated in Sentence 5.2.2.3.(1), on the basis that air leakage in such ducts will occur in spaces where there will be no significant energy penalty.

Provision: 5.2.2.3.(4)

Intent(s)

Intent 1. To exempt supply ducts located in the same space to which they supply air from the construction, installation and sealing requirements stated in Sentence 5.2.2.3.(2), on the basis that air leakage from such ducts will occur in spaces where there will be no significant energy penalty and where there is no controlled element whose performance could be negatively affected by the air leakage.

Provision: 5.2.2.3.(5)

Objective
OE1

Attributions
[F91, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that sealing tape will be used as the primary sealing method, which could lead to failure of the sealant tape, which could lead to unintended delivery of conditioned air to spaces, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.4.(1)

Objective
OE1

Attributions
[F91, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability of uncontrolled air leakage through ducts and their fittings that form part of a heating, ventilating or air-conditioning system, which could lead to unintended delivery of conditioned air to spaces, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.4.(2)

Objective
OE1

Attributions
[F91, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability of excessive air leakage through ducts and their fittings that form part of a heating, ventilating or air-conditioning system as determined by testing, which could lead to unintended delivery of conditioned air to spaces, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.5.(1)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)
Intent 1. To limit the probability that air-handling ducts, plenums and run-outs forming part of a heating, ventilating, or air-conditioning system will be insufficiently insulated, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.5.(2)

Intent(s)
Intent 1. To exempt certain components of an air-handling system that are in conditioned space and do not supply conditioned air to a space from the insulation requirements stated in Sentence 5.2.2.5.(1), on the basis that thermal loss or gain in such components will not have a significant impact on the use of energy.

Provision: 5.2.2.5.(3)

Intent(s)
Intent 1. To exempt certain components of an air-handling system that are in conditioned space in a dwelling unit and that serve only that dwelling unit from the insulation requirements stated in Sentence 5.2.2.5.(1), on the basis that thermal loss or gain in such components will not have a significant impact on the use of energy and will not affect the energy use of other occupancies.

Provision: 5.2.2.5.(4)

Objective
OE1

Attributions
[F93-OE1.1]

Intent(s)
Intent 1. To limit the probability that ducts and plenums located outside the building envelope will be insufficiently insulated, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt certain components that are outside of the building envelope and that convey exhaust air that will not have to be reconditioned with building air from the insulation requirements stated in Sentence 5.2.2.5.(1).

Provision: 5.2.2.5.(5)

Intent(s)

Intent 1. To supersede the insulation requirements stated in Sentences 5.2.2.5.(1) and 5.2.2.5.(4) and allow a lower level of insulation in components that have been tested to an accredited standard.

Provision: 5.2.2.5.(6)

Objective

OE1

Attributions

[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that insulation of air-handling ducts, plenums and run-outs will be improperly installed, which could lead to inadequate performance of such insulation in HVAC systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.6.(1)

Objective

OE1

Attributions

[F92, F93, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulation on cold-air supply ducts will not have vapour barrier protection, which could lead to reduced performance of the insulation, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.6.(2)

Objective

OE1

Attributions

[F92, F93, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that duct insulation located where it may be damaged or subject to weathering will be unprotected, which could lead to insulation being damaged or weathered, which could

lead to reduced performance of the insulation, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.7.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that certain HVAC systems will not use outdoor air to reduce the mechanical cooling energy, which could lead to unnecessary consumption of energy for cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.8.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the mechanical cooling system will not make effective use of outdoor air to supply or augment the supply of cooled air, which could lead to the unnecessary use of mechanical cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.8.(2)

Intent(s)

Intent 1. To direct Code users to the ventilation provisions of the NBC for systems that would otherwise reduce the levels of outdoor air to below that prescribed by the NBC for the sake of energy efficiency.

Provision: 5.2.2.8.(3)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the mix of outdoor air with return air will not be compatible with the temperature required to condition the space, which could lead to the unnecessary use of mechanical cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.8.(4)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that systems with a large cooling capacity will not be designed with lesser stages, which could lead to excessive cycling of the cooling system, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.8.(5)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that systems with a significant cooling capacity will not be designed with lesser stages, which could lead to excessive cycling of the cooling system, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.8.(6)

Intent(s)
Intent 1. To exempt certain systems that are susceptible to coil frosting from the requirements of Sentence 5.2.2.8.(3) regarding the mix of outdoor air with return air.

Provision: 5.2.2.9.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that the design of the cooling system will not be capable of supplying all of the cooling demand at a reasonable outdoor temperature, which could lead to the unnecessary use of mechanical cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.2.9.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the design of the cooling system will not be capable of supplying all of the cooling demand at a reasonable outdoor temperature, which could lead to the unnecessary use of mechanical cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.3.1.(1)

Intent(s)

Intent 1. To state the application of Subsection 5.2.3.

Provision: 5.2.3.1.(2)

Objective

OE1

Attributions

[F95, F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that the power demand of a fan system will be improperly calculated, which could lead to underestimation of the power demand, which could lead to inefficient design of the fan system, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.3.2.(1)

Objective

OE1

Attributions

[F95, F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that constant-volume fan systems will be designed with motors that consume excessive power, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.3.3.(1)

Objective

OE1

Attributions

[F95, F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that variable-air-volume fan systems will be designed with motors that consume excessive power, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.3.3.(2)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that variable-air-volume systems with a significant power demand will not be equipped with controls to sufficiently reduce thepower demand when the air delivery volume is reduced, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.3.3.(3)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that variable-air-volume systems with a large power demand will not be equipped with controls to sufficiently reduce the power demand when the air delivery volume is reduced, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.4.1.(1)

Objective
OE1

Attributions
[F91, F95-OE1.1]

Intent(s)
Intent 1. To limit the probability of uncontrolled exhaust of conditioned air to other than conditioned spaces, which could lead to increased demand for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability of uncontrolled intake of outdoor air, which could lead to increased demand for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.4.1.(2)

Intent(s)
Intent 1. To exempt air intakes and outlets from the damper requirement of Sentence 5.2.4.1.(1) where dampers are not permitted.

Provision: 5.2.4.1.(3)

Intent(s)

Intent 1. To exempt air intakes and outlets from the damper requirement of Sentence 5.2.4.1.(1) where, due to the continuous operation of the HVAC system, they will not be used.

Provision: 5.2.4.1.(4)

Intent(s)

Intent 1. To supersede the requirement of Sentence 5.2.4.1.(1) and allow manual operation of air intake dampers and gravity or spring-operated control of air outlet dampers for small ducts and openings, on the basis that these alternative methods are sufficient to control the air intake or outflow.

Provision: 5.2.4.2.(1)

Objective

OE1

Attributions

[F90, F91, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that air intakes and outlets will remain open to the outside when not in operation, which could lead to unwanted and uncontrolled air leakage through the building envelope, which could lead to increased demand for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.4.2.(2)

Objective

OE1

Attributions

[F90, F91, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability of excessive airflow through closed motorized dampers, which could lead to unwanted and uncontrolled air leakage through the building envelope, which could lead to increased demand for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.4.2.(3)

Objective

OE1

Attributions

[F92, F95-OE1.1]

Intent(s)

Intent 1. To limit the probability of insufficient insulation in ducts located between dampers and the building envelope, which could lead to excessive thermal transfer through the ducts, which could lead to increased demand for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.4.2.(4)

Intent(s)

Intent 1. To exempt certain dampers serving outside equipment from the location requirement of Sentence 5.2.4.2.(1), on the basis that the location of these dampers will not affect thermal transfer or air leakage across the building envelope.

Provision: 5.2.5.1.(1)

Intent(s)

Intent 1. To direct Code users to the NBC for the design and installation of piping for heating, ventilating and air-conditioning systems.

Provision: 5.2.5.2.(1)

Objective

OE1

Attributions

[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that hydronic systems will not be designed so that they can be balanced, which could lead to improper flow distribution, which could lead to inefficient operation of system pumps, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.3.(1)

Objective

OE1

Attributions

[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be insufficient insulation on piping in HVAC systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.3.(2)

Intent(s)

Intent 1. To exempt pipes located within conditioned space in a dwelling unit and serving only that dwelling unit from the insulation requirements of Sentence 5.2.5.3.(1), on the basis that thermal losses or gains from such pipes will not have a significant impact on the use of energy and will not affect the energy use of other occupancies.

Provision: 5.2.5.3.(3)

Objective
OE1

Attributions
[F92-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be insufficient insulation for HVAC piping located outside the building envelope, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.3.(4)

Intent(s)

Intent 1. To exempt from the insulation requirements of Sentence 5.2.5.3.(1) piping that conveys fluids with operating temperatures that do not differ significantly from the ambient temperature, on the basis that the thermal loss or gain from the fluid is insignificant.

Provision: 5.2.5.3.(5)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be insufficient insulation for piping in heating and cooling systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.3.(6)

Intent(s)

Intent 1. To supersede the insulation requirement of Sentence 5.2.5.3.(1) and allow a decrease in the thickness of the insulation where its conductivity is lower than that prescribed in Table 5.2.5.3.

Provision: 5.2.5.3.(7)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal conductivity of pipe insulation at the mean temperature rating will not be determined in accordance with an acceptable standard, which could lead to insufficient insulation for piping in heating and cooling systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.3.(8)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)
Intent 1. To limit the probability that piping insulation will be improperly installed, which could lead to inadequate performance of insulation for piping in heating and cooling systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.4.(1)

Objective
OE1

Attributions
[F92, F93, F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulation on chilled-fluid piping will not have vapour barrier protection, which could lead to reduced performance of the insulation, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.5.4.(2)

Objective
OE1

Attributions
[F92, F93, F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that piping insulation located where it may be damaged or subject to weathering will be unprotected, which could lead to insulation being damaged or weathered, which could lead to reduced performance of the insulation, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.6.1.(1)

Intent(s)

Intent 1. To state the application of Subsection 5.2.6.

Provision: 5.2.6.1.(2)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the total pump system motor nameplate power will be incorrectly determined, which could lead to underestimation of the power demand, which could lead to inefficient design of the pump system, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.6.2.(1)

Objective

OE1

Attributions

[F95, F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that pumping systems that serve control valves will be required to do more work than is needed to meet the load demand, which could lead to unnecessary power consumption, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.6.2.(2)

Intent(s)

Intent 1. To exempt from the requirements of Sentence 5.2.6.2.(1), systems

- that could be damaged if the requirements of Sentence 5.2.6.2.(1) were applied,
- in which the application of Sentence 5.2.6.2.(1) will likely not result in any appreciable energy savings, or
- that control the supply temperature rather than the fluid flow rate.

Provision: 5.2.7.1.(1)

Objective

OE1

Attributions

[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that equipment that is not designed for installation outdoors or in unconditioned spaces will be installed in such conditions, which could lead to

- damage or weathering of the equipment, which could lead to improper operation of the equipment, which could lead to the unnecessary consumption of energy, or
- the use of equipment with improper insulation, which could lead to uncontrolled thermal transfer to or from the system.

This is to limit the probability of excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.1.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that heating and cooling systems will not include a means to control the temperature, which could lead to overheating or overcooling of the space, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.1.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that each dwelling unit in a building will not include a means to control the temperature in that specific dwelling unit, which could lead to overheating or overcooling of the dwelling unit, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.2.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that each room in a dwelling unit will not include a means to control the heating temperature, which could lead to overheating of the room, which could lead to unnecessary consumption of energy, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.2.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that each room in a dwelling unit will not include a means to control the cooling temperature, which could lead to overcooling of the room, which could lead to unnecessary consumption of energy, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.3.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probability that sensors of wall-mounted thermostats will be installed

- either too high or too low,
- on exterior walls that are insufficiently insulated to prevent the sensors from being affected by the outside temperature,
- in direct sunlight or near sources of heat, or
- in drafts or dead air pockets.

Intent(s)
Intent 1. To exempt sensors for thermostats from the prescribed installation requirements in installations where accessibility must be facilitated.

Provision: 5.2.8.4.(1)

Objective
OE1

Attributions
[F95, F97, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that heat pumps with a supplementary heating system will be installed without controls, which could lead to unnecessary operation of the supplementary heaters, which could lead to unnecessary consumption of energy for heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the controls will not prevent operation of the supplementary heaters when the load can be met by the heat pump, which could lead to unnecessary operation of the supplementary heaters, which could lead to unnecessary consumption of energy for heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To supersede the operational requirements of the heat pump controls and allow supplementary heaters to operate when the heat pump is in a defrost cycle, on the basis that requiring operation of the heat pump at these times could result in damage to the unit.

Provision: 5.2.8.5.(1)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating or cooling supply to a zone will not be controlled, which could lead to overheating or overcooling the zone, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.5.(2)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that individual perimeter systems designed to offset only building envelope heat losses or gains will be improperly designed and installed, which could lead to overheating or overcooling, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.5.(3)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the controls will call for simultaneous heating and cooling of a space, which could lead to increased heating or cooling demand, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.5.(4)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limt the probability that thermostats for electric resistance heaters will not be capable of performing the control of heating to an acceptable standard, which could lead to overheating of the space, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.5.(5)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that the amount of heating to a vestibule will not be controlled, which could lead to overheating or overcooling of the vestibule space, which could lead to excessive loss of over-conditioned air when doors to the outside are opened, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.6.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that ice- and snow-melting heaters will not be capable of shutting down or being shut down when they are not required, which could lead to unnecessary consumption of energy, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.7.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that a supply air handler will not be equipped with adequate controls, which could lead to

- heating previously cooled air,
- cooling previously heated air, or
- excessively heating outdoor air.

This is to limit the probability of unnecessary consumption of energy for heating, ventilation or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.7.(2)

Intent(s)

Intent 1. To supersede the control requirements of Sentence 5.2.8.7.(1) for supply air handlers in situations where reheating the supply air is required.

Provision: 5.2.8.7.(3)

Intent(s)

Intent 1. To supersede the control requirements of Sentence 5.2.8.7.(1) for supply air handlers in situations where reheating the supply air will not increase the consumption of energy.

Provision: 5.2.8.8.(1)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that a system that controls the temperature of a space by reheating previously cooled air will operate without the proper controls to automatically adjust the temperature of the cool air supply to the highest temperature that will satisfy the temperature-control zone requiring the coolest air, which could lead to the unnecessary use of mechanical cooling to meet the air temperature set-point, which could lead to unnecessary consumption of energy for cooling, which could lead toexcessive use of energy, which could lead to an unacceptable effect on the environment.the building.

Provision: 5.2.8.8.(2)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that a system that controls the temperature of a space by recooling previously heated air will operate without the proper controls to automatically adjust the temperature of the warm air supply to the lowest temperature that will satisfy the temperature-control zone requiring the warmest air, which could lead to the unnecessary use of mechanical heating to meet the air temperature set-point, which could lead to unnecessary consumption of energy for heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.8.(3)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that a system that controls the temperature of a space by mixing heated supply air and cooled supply air will not

- automatically adjust the temperature of the warm supply air to the lowest temperature that will satisfy the temperature-control zone requiring the warmest air, and
- automatically adjust the temperature of the cool supply air to the highest temperature that will satisfy the temperature-control zone requiring the coolest air.

This is to limit the probability of unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.8.8.(4)

Intent(s)

Intent 1. To exempt from the control requirements of Sentences 5.2.8.8.(1), 5.2.8.8.(2) and 5.2.8.8.(3), systems that reduce the air supplied to a minimum in relation to the floor surface area of the temperature-control zone, on the basis that controls will have a negligible impact on the consumption of energy due to the small volume of supply air.

Provision: 5.2.9.1.(1)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that a system that maintains specific humidity by adding or removing moisture will not be equipped with an automatic control device, which could lead to adding or removing moisture beyond the design set point, which could lead to unnecessary consumption of energy, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.1.(1)

Objective

OE1

Attributions

[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that heat recovery systems will not be installed with an acceptable performance level, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt from the requirement to have heat recovery capability, systems where the potential for heat recovery from exhaust air is low.

Provision: 5.2.10.1.(2)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)
Intent 1. To limit the probability that the heat recovered from heat recovery systems will not be used in building systems, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.1.(3)

Intent(s)
Intent 1. To exempt from the requirement to have heat recovery capability, systems that exhaust air containing fumes, vapours or dust required to be exhausted from the building for reasons of health or safety.

Provision: 5.2.10.1.(4)

Intent(s)
Intent 1. To clarify how to calculate the sensible heat from exhaust air.

Provision: 5.2.10.1.(5)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)
Intent 1. To limit the probability that the efficiency of heat-recovery systems will not be determined in accordance with an acceptable test method, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.2.(1)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that swimming pools within conditioned spaces will not be equipped with a heat recovery system capable of recovering a minimum amount of sensible heat from exhaust air, which could lead to unnecessary rejection of reusable waste energy, which could lead to unnecessary consumption of energy for heating or cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt small indoor swimming pools from the requirement for the installation of a heat recovery system, on the basis that heat recovered from the exhaust air will not be sufficient to have a significant impact on the energy performance of the building.

Provision: 5.2.10.2.(2)

Intent(s)

Intent 1. To exempt from the requirement for the installation of a heat recovery system, indoor swimming pools where air is dehumidified by a means that does not exhaust air to the outside.

Provision: 5.2.10.3.(1)

Objective

OE1

Attributions

[F95, F96, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that a refrigeration system will not incorporate sufficient means of recovering the heat it rejects to satisfy some or all of the space-heating or service water heating requirements, which could lead to the unnecessary consumption of energy for heating or service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.4.(1)

Objective

OE1

Attributions

[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that a self-contained mechanical ventilation system serving a single dwelling unit will be operated without heat recovery capability on its principal exhaust component, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt from the requirement to equip the principal exhaust with a heat recovery system, buildings in climate zones for which the installation of a heat recovery system is not economically justified.

Provision: 5.2.10.4.(2)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that the performance of heat recovery ventilators will fall significantly below expectations, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.4.(3)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that testing the sensible-heat-recovery efficiency of heat-recovery systems will be performed under improper conditions, which could lead to the performance of heat recovery ventilators falling significantly below expectations, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.4.(4)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that the performance of heat recovery systems other than heat recovery ventilators will fall significantly below expectations, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.10.4.(5)

Objective
OE1

Attributions
[F95, F100-OE1.1]

Intent(s)
Intent 1. To limit the probability that the performance of heat recovery systems in multi-unit residential buildings will be inadequate, which could lead to exhausting conditioned air to the outside, which could lead to the unnecessary rejection of reusable waste heat, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.1.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probably that heating, ventilating or air-conditioning systems will be installed and operated without automatic controls, which could lead to heating, ventilating or air-conditioning systems supplying thermal energy to spaces to maintain occupant comfort when they are unoccupied, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)
Intent 1. To exempt occupancies other than dwelling units from the requirement for automatic controls where heating, ventilating and air-conditioning systems are intended to operate continuously, on the basis that there will be no periods of non-use of the spaces served.

Intent 2. To exempt from the requirement for automatic controls, zones in buildings other than dwelling units that have a heating or air-conditioning system of less than 5 kW capacity, on the basis that the use of controls will have no significant impact on the energy used.

Provision: 5.2.11.1.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)
Intent 1. To limit the probably that a heating, ventilating or air-conditioning system will be designed and installed without the necessary controls capable of

- shutting down fan systems, heating and cooling equipment and/or auxiliaries, where appropriate, when the space does not require conditioning,
- setting back the space-heating temperature set-point when appropriate for operational needs,

- setting up the space-cooling temperature set-point when cooling system operation is required during periods when the space is not in use,
- reducing or shutting off outdoor air intake during heating or cooling system operation when the space is not in use, which could lead to the unnecessary use of heating or cooling energy to temper outside air, and
- in the case of heat pumps, temporarily suppressing electrical back-up or adaptive anticipation of the recovery point, which could lead to the unit resorting to supplementary heat at the time of recovery.

This is to limit the probability of unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.1.(3)

Intent(s)

Intent 1. To supersede the requirement of Sentence 5.2.11.1.(1) and allow zones with a small heating, ventilating and cooling capacity to have manual controls, on the basis that the use of manual versus automatic controls will have no significant impact on the consumption of energy in these spaces.

Provision: 5.2.11.1.(4)

Objective

OE1

Attributions

[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that controls required by Sentence 5.2.11.1.(1) will be improperly designed such that

- lowering a heating thermostat set-point triggers cooling energy to be used to reach the lowered heating setting, or
- raising a cooling thermostat set-point triggers heating energy to be used to reach the raised cooling setting.

This is to limit the probability of the unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(1)

Objective

OE1

Attributions

[F95, F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that air distribution systems will not be divided into individual airflow control areas, which could lead to a lack of airflow control, which could lead to

- an excessive air supply to areas whose instantaneous load can be satisfied with less air,
- excessive air exhausted from those areas, or
- a load demand from areas not served by the zoned airflow.

This is to limit the probability of unnecessary fan energy usage and excessive thermal energy transfer, which could lead to unnecessary consumption or demand of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(2)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that air distribution systems will serve an excessively large area, which could lead to a lack of aircontrol, which could lead to

- excessive air supply to areas whose instantaneous load can be satisfied with less air,
- excessive air exhausted from those areas, or
- load demand from areas not served by the zoned airflow.

This is to limit the probability of unnecessary fan energy usage and excessive thermal energy transfer, which could lead to unnecessary consumption or demand of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(3)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that airflow control areas required by Sentences 5.2.11.2.(1) and 5.2.11.2.(2) will include temperature-control zones not intended to be operated simultaneously, which could lead to air distribution systems running to satisfy only a portion of the temperature-control zones, which could lead to cycling of more air than required to meet the temperature set-point, which could lead to unnecessary consumption or demand of energy for heating and cooling and fan motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(4)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that airflow control areas required by Sentences 5.2.11.2.(1) and 5.2.11.2.(2) will exceed the control capability of one air distribution system due to a potentially large variance in local conditions, which could lead to cycling of more air than required to meet the temperature set-point, which could lead to unnecessary consumption or demand of energy for heating and cooling

and fan motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(5)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that airflow control areas will not be equipped with adequate controls, which could lead to heating and cooling equipment performing their function during periods of non-use of the spaces served by the systems, which could lead to unnecessary consumption or demand of energy for heating and cooling and fan motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(6)

Objective
OE1

Attributions
[F95, F97-OE1.1]

Intent(s)
Intent 1. To limit the probability that an air distribution system will be designed so that a reduction in air delivery does not result in a proportional reduction in fan power, which could lead to unnecessary consumption or demand of energy for heating and cooling and fan motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(7)

Objective
OE1

Attributions
[F95, F97, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the operation of all fan systems and associated primary heating and cooling equipment may become unstable for any length of time while serving a single airflow control area, which could lead to adjustment of controls to non-optimal levels, which could lead to unnecessary consumption or demand of energy for heating and cooling and fan motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.2.(8)

Intent(s)
Intent 1. To exempt temperature-control zones from the requirement to be incorporated into airflow control areas where outdoor air and exhaust make their incorporation impractical.

Provision: 5.2.11.3.(1)

Objective
OE1

Attributions
[F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that pumping stations that are used on a seasonal basis will not be equipped with controls, which could lead to their operation when not warranted, which could lead to unnecessary consumption of energy for pump motors, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.4.(1)

Objective
OE1

Attributions
[F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that systems with multiple boilers will not incorporate a means for preventing heat loss when any or all are not operating, which could lead to uncontrolled heat loss through the boilers, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.4.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that boiler plants with a moderate load will not have a means to efficiently address part load, which could lead to unnecessary consumption of energy for heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.4.(3)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that boiler plants with a large load will not have a means to efficiently address part load, which could lead to unnecessary consumption of energy for heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.5.(1)

Objective
OE1

Attributions
[F95, F98-OE1.1]

Intent(s)

Intent 1. To limit the probability that chilled or hot-water systems will be installed without loop temperature reset, which could lead to over-heating or over-cooling of spaces, which could lead to unnecessary consumption of energy for heating and cooling and to inefficient operation of equipment, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.11.5.(2)

Intent(s)

Intent 1. To exempt from the automatic control requirements of Sentence 5.2.11.5.(1), chilled- or hot-water systems that would not operate efficiently using loop temperature reset control.

Provision: 5.2.11.5.(3)

Intent(s)

Intent 1. To exempt from the automatic control requirements of Sentence 5.2.11.5.(1), chilled- or hot-water systems that use variable flow to control capacity.

Provision: 5.2.12.1.(1)

Objective
OE1

Attributions
[F95, F98, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that heating, ventilating and air-conditioning equipment and components will not meet minimum acceptable levels of performance, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.12.2.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that systems with components from more than one manufacturer will not be designed in accordance with good engineering practice based on correct component efficiencies, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.2.12.3.(1)

Objective
OE1

Attributions
[F98-OE1.1]

Intent(s)
Intent 1. To limit the probability that service water heating equipment used to provide comfort conditioning will not meet minimum acceptable levels of performance, which could lead to inefficient equipment, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.1.1.(1)

Intent(s)
Intent 1. To state the application of Section 5.3.

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the trade-off path will be used for buildings where there is insufficient information to accurately assess the building using the trade-off option, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the trade-off path will be used for a type of HVAC system that has not been assessed, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 3. To limit the probability that the trade-off path will be used for a type of energy source for the HVAC system that has not been assessed, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.1.2.(1)

Intent(s)

Intent 1. To limit the application of Sentence 5.3.1.1.(1) and require that back-up systems meet the prescriptive requirements of the Code, and not a lesser standard, on the basis that they are required for emergencies.

Provision: 5.3.1.3.(1)

Intent(s)

Intent 1. To state the basis for determination of compliance with the Part 5 trade-off path.

Provision: 5.3.1.4.(1)

Intent(s)

Intent 1. To define "total degree-days."

Provision: 5.3.2.1.(1)

Objective

OE1

Attributions

[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the HVAC trade-off index will be improperly calculated, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.2.(1)

Objective

OE1

Attributions

[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that, for a particular HVAC system, components that affect its efficiency will not be included in the analysis or components that are not relevant will be included in the analysis, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.3.(1)

Objective

OE1

Attributions

[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the trade-off value of component i to be traded in the proposed building will be incorrectly determined, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.4.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an incorrect base value of components for the reference building will be used in the HVAC trade-off calculations, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.5.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the first order weighting factor to link the component efficiency variations will be incorrectly determined, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.5.(2)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the second order weighting factor to link the component efficiency variations will be incorrectly determined, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.6.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the climatic parameters relevant to the component for the HVAC system will be incorrectly determined, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.7.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the trade-off value of specific components will be incorrect, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.3.2.8.(1)

Objective
OE1

Attributions
[F95, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that incorrect coefficient values for weighting for the given HVAC type and component will be used, which could lead to overestimation of the efficiency of the HVAC system, which could lead to unnecessary consumption of energy for heating and cooling, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 5.4.1.1.(1)

Intent(s)

Intent 1. To direct Code users to Part 8.

Provision: 5.4.1.2.(1)

Objective
OE1

Attributions
[F98, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that heating, ventilating and air-conditioning equipment and systems designed using the performance compliance path will not meet minimum regulated levels of efficiency, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for heating, ventilation and air-conditioning, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)
Intent 1. To limit the application of the performance compliance path for heating, ventilating and air-conditioning systems.

Provision: 5.4.1.2.(2)

Intent(s)
Intent 1. To limit the application of Sentence 5.4.1.1.(1) and require that back-up systems meet the prescriptive requirements of the Code, and not a lesser standard, on the basis that they are required for emergencies.

Provision: 6.1.1.1.(1)

Intent(s)
Intent 1. To state the scope of Part 6.

Provision: 6.1.1.2.(1)

Intent(s)
Intent 1. To state the application of Part 6.

Provision: 6.1.1.3.(1)

Intent(s)
Intent 1. To state the methods of compliance with Part 6.
Intent 2. To direct Code users to Section 6.2. for the prescriptive path requirements, Section 6.3. for the trade-off path requirements, and Section 6.4. for the building energy performance compliance path requirements.

Provision: 6.1.1.3.(2)

Intent(s)

Intent 1. To limit the method of compliance for back-up systems to the prescriptive path, on the basis that they provide minimum service water heating levels in the event the primary system is compromised.

Provision: 6.1.1.4.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 6.2.1.1.(1)

Intent(s)

Intent 1. To To limit the probability that service water heating equipment will not meet minimum regulated levels of efficiency, which could lead to inefficient equipment, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.1.(1)

Objective

OE1

Attributions

[F96, F98-OE1.1]

Intent(s)

Intent 1. To limit the probability that service water heating equipment and pool heaters will not meet minimum acceptable levels of performance, which could lead to inefficient equipment, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.2.(1)

Objective

OE1

Attributions

[F93, F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that hot water storage tanks will be insufficiently insulated, which could lead to uncontrolled thermal transfer from the storage tank, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To exempt hot water storage tanks that meet the insulation levels prescribed by acceptable standards and acts from the insulation requirements stated in Sentence 6.2.2.2.(1).

Provision: 6.2.2.2.(2)

Objective
OE1

Attributions
[F93, F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that storage tank insulation will be damaged, which could lead to uncontrolled thermal transfer from the storage tank, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.3.(1)

Objective
OE1

Attributions
[F96, F98, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that solar service water heating equipment will not be appropriately installed or designed, which could lead to an inability to meet minimum acceptable levels of performance, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.4.(1)

Objective
OE1

Attributions
[F95, F96, F98, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that

- designs with a large demand for combined service water heating and space-heating will use a combination system, which could lead to inefficient equipment and systems, or
- combination systems will be used where the space-heating load exceeds the service water heating load.

This is to limit the probability of unnecessary consumption of energy for service water heating and/or space heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.4.(2)

Objective
OE1

Attributions
[F95, F96, F98, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that combination equipment used for service water heating and space heating will not meet minimum acceptable levels of performance, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for service water heating and/or space heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.2.5.(1)

Objective
OE1

Attributions
[F95, F96, F98, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that space-heating equipment used to provide indirect service water heating solely or in combination with space heating will not meet the minimum acceptable levels of performance

- for service water heating equipment, which could lead to inefficient service water heating equipment and/or systems, which could lead to unnecessary consumption of energy for service water heating, and
- for space-heating equipment, which could lead to inefficient space-heating equipment and/or systems, which could lead to unnecessary consumption of energy for space heating.

This is to limit the probability of excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.3.1.(1)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)
Intent 1. To limit the probability that piping in service water heating systems will be insufficiently insulated, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.3.1.(2)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that there will be insufficient insulation for piping in service water heating systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.3.1.(3)

Intent(s)

Intent 1. To supersede the insulation requirement of Sentence 6.2.3.1.(1) and allow a decrease in the thickness of insulation where its conductivity is lower than that prescribed in Table 6.2.3.1.

Provision: 6.2.3.1.(4)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal conductivity of pipe insulation at the mean temperature rating will not be determined in accordance with an acceptable standard, which could lead to insufficient insulation for piping in service water heating systems, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.3.1.(5)

Objective
OE1

Attributions
[F92, F93-OE1.1]

Intent(s)

Intent 1. To limit the probability that piping in service water heating systems will be insufficiently insulated, which could lead to uncontrolled thermal losses or gains, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.4.1.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that service water heating systems with storage tanks will not be equipped with automatic temperature controls within a range required for intended use, which could lead to overheating of the water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.4.2.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that service water heating systems and pipe heating elements will not be equipped with shut-offs, which could lead to unwarranted operation of the system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To exempt systems with a small storage capacity from the requirements for shut-offs, on the basis that the operation of these systems will not significantly impact the consumption of energy.

Provision: 6.2.4.3.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that heating elements to maintain temperature along service water pipes will not be equipped with automatic controls to maintain the temperature within a range required for intended use, which could lead to overheating of the water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.5.1.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that service water heating systems with less than 50% of the total design flow that discharges water at a temperature higher than 60°C will heat greater than that portion of the total design flow, which could lead to overheating of the remainder of the design flow to greater than the service temperature required, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.6.1.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that individual shower heads will not be equipped with an integral means of limiting the water flow, which could lead to excessive use of hot service water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To exempt from the water flow limits, individual shower heads that are required to have higher flow rates to fulfill their intended use, which relates to safety.

Provision: 6.2.6.1.(2)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that individual shower heads will discharge hot service water when not in use, which could lead to excessive use of hot service water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.6.2.(1)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)

Intent 1. To limit the probability that lavatory faucets will not be equipped with an integral means of limiting the hot water flow, which could lead to excessive use of hot service water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.6.2.(2)

Objective
OE1

Attributions
[F96-OE1.1]

Intent(s)
Intent 1. To limit the probability that lavatories in assembly occupancies will discharge hot service water when not in use, which could lead to excessive use of hot service water, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.7.1.(1)

Objective
OE1

Attributions
[F95, F96, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that pool heaters will not be equipped with an adequate method to be easily shut off and restarted, which could lead to operation of the heater when not warranted, which could lead to unnecessary consumption of energy for pool water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.7.1.(2)

Objective
OE1

Attributions
[F95, F96, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that pool heaters and pumps will not be equipped with automatic controls, which could lead to their operation when not in use, which could lead to unnecessary consumption of energy for pool operation and water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)
Intent 1. To exempt from the requirement for automatic controls, pool heaters and pumps that are required to operate continuously for public health reasons.

Provision: 6.2.7.2.(1)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that heated outdoor pools and tubs will not be equipped with covers, which could lead to excessive heat loss, which could lead to unnecessary operation of heaters, which could lead to unnecessary consumption of energy for water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.2.7.2.(2)

Objective
OE1

Attributions
[F95-OE1.1]

Intent(s)

Intent 1. To limit the probability that covers for pools and tubs heated to high temperatures will have excessive thermal transmittance, which could lead to excessive heat loss, which could lead to unnecessary operation of heaters, which could lead to unnecessary consumption of energy for water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.1.1.(1)

Intent(s)

Intent 1. To state the application of Section 6.3.

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the trade-off path will be used for buildings where there is insufficient information to accurately assess the building using the trade-off option, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service hot water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the trade-off path will be used for a type of SWH system that has not been assessed, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service hot water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 3. To limit the probability that the trade-off path will be used for a type of energy source for the SWH system that has not been assessed, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service hot water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.1.2.(1)

Intent(s)

Intent 1. To limit the application of Sentence 6.3.1.1.(1) and require that back-up systems meet the prescriptive requirements of the Code, and not a lesser standard, on the basis that they are required for emergencies.

Provision: 6.3.1.3.(1)

Intent(s)

Intent 1. To state the basis for determination of compliance with the Part 6 trade-off path.

Provision: 6.3.2.1.(1)

Objective

OE1

Attributions

[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the SWH trade-off index will be improperly calculated, which could lead tooverestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.1.(2)

Objective

OE1

Attributions

[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the SWH trade-off index will be improperly calculated, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.1.(3)

Objective

OE1

Attributions

[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the SWH trade-off index will be improperly calculated, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.2.(1)

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the peak daily flow rate will be improperly calculated, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.3.(1)

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the normalized tank area will be improperly calculated, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.4.(1)

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the normalized tank diameter will be improperlycalculated, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.5.(1)

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the trade-off value of the SWH component will be incorrectly determined, which could lead to overestimation of the efficiency of the SWH system, which could lead to

unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.3.2.6.(1)

Objective
OE1

Attributions
[F96, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the reference heat generator will be set at an inappropriate value, which could lead to overestimation of the efficiency of the SWH system, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 6.4.1.1.(1)

Intent(s)
Intent 1. To direct Code users to Part 8.

Provision: 6.4.1.2.(1)

Objective
OE1

Attributions
[F98, F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that service water heating equipment and systems designed using the performance compliance path will not meet minimum regulated levels of efficiency, which could lead to inefficient equipment and/or systems, which could lead to unnecessary consumption of energy for service water heating, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the application of the performance compliance path for service water heating systems.

Provision: 6.4.1.2.(2)

Intent(s)
Intent 1. To limit the application of Sentence 6.4.1.1.(1) and require that back-up systems meet the prescriptive requirements of the Code, and not a lesser standard, on the basis that they are required for emergencies.

Provision: 7.1.1.1.(1)

Intent(s)
Intent 1. To state the scope of Part 7.

Provision: 7.1.1.2.(1)

Intent(s)

Intent 1. To state the application of Part 7.

Provision: 7.1.1.3.(1)

Intent(s)

Intent 1. To state the methods of compliance with Part 7.

Intent 2. To direct Code users to Section 7.2. for the prescriptive path requirements and Section 7.4. for the building energy performance compliance path requirements.

Provision: 7.1.1.4.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 7.2.1.1.(1)

Objective
OE1

Attributions
[F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that a means to monitor the electrical energy consumption of certain energy end uses will not be installed, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.2.1.1.(2)

Objective
OE1

Attributions
[F97-OE1.1]

Intent(s)

Intent 1. To limit the probability that a means to separately monitor the electrical energy consumption of the total building and of each individual dwelling unit will not be installed, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.2.2.1.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that line voltage drops in feeder conductors will exceed acceptable levels, which could lead to unnecessary energy losses in the electrical distribution system, which could lead to an inefficient electrical distribution system, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.2.2.2.(1)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that line voltage drops in branch circuit conductors will exceed acceptable levels, which could lead to unnecessary energy losses in the electrical distribution system, which could lead to an inefficient electrical distribution system, could lead toexcessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.2.3.1.(1)

Objective

OE1

Attributions

[F97, F98-OE1.1]

Intent(s)

Intent 1. To limit the probability of high losses from transformers, which could lead to the use of inefficient equipment, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.2.4.1.(1)

Objective

OE1

Attributions

[F97, F98, F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that motors will not meet minimum acceptable levels of performance, which could lead to inefficient equipment and/or systems, which could lead to unnecessary energy demand and/or consumption of energy of electrical equipment and devices, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 7.4.1.1.(1)

Intent(s)

Intent 1. To direct Code users to Part 8.

Provision: 8.1.1.1.(1)

Intent(s)

Intent 1. To state the scope of Part 8.

Provision: 8.1.1.2.(1)

Intent(s)

Intent 1. To state the application of Part 8.

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the Part 8 compliance path will be used when there is insufficient information to accurately model the reference and proposed buildings, which could lead to underestimation of the energy used by the building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.1.1.2.(2)

Intent(s)

Intent 1. To expand the application of Sentence 8.1.1.2.(1) and allow the Part 8 compliance path to be used when there is insufficient information about certain components, materials or assemblies by applying the applicable prescriptive requirements to those components, materials or assemblies.

Provision: 8.1.1.2.(3)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability buildings whose construction varies from the proposed design will not have their performance reassessed, which could lead to underestimation of the energy used by the building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.1.1.2.(4)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the Part 8 compliance path will be used for a group of stand-alone structures, which could lead to underestimation of the energy used by each building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.1.1.2.(5)

Intent(s)

Intent 1. To expand the application of Sentence 8.1.1.2.(4) and allow the Part 8 compliance path to be used for single structures divided into buildings, on the basis that they can be accurately modeled for energy performance.

Provision: 8.1.1.3.(1)

Intent(s)

Intent 1. To direct Code users to Part 1 of Division A for the definitions of selected terms used in the Code.

Provision: 8.4.1.1.(1)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the building energy target will not correspond to the energy use of the building when designed to the acceptable solution set by the prescriptive path, which could lead to overestimation of the building energy target, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.1.(2)

Objective

OE1

Attributions

[F92, F93, F94, F95, F96, F97, F98, F99, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual energy consumption for the proposed building will give credit for construction techniques or building components that are more energy-efficient than the levels set by the prescriptive path but whose performance level is dependant on occupant interaction (which cannot be mandated by the Code) or cannot be quantified, which could lead to underestimation of the annual energy consumption, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.1.(3)

Intent(s)

Intent 1. To limit the application of Sentence 8.4.1.1.(1) and allow the modeling calculations to be simplified for portions of the building design that meet or exceed the prescriptive levels and relate to unconditioned spaces, on the basis that indoor loads due to equipment located within those spaces have no impact on the overall energy use of the rest of the building.

Provision: 8.4.1.2.(1)

Intent(s)

Intent 1. To state the basis of compliance with Part 8.

Provision: 8.4.1.2.(2)

Objective

OE1

Attributions

[F92, F93, F94, F95, F96, F97, F98, F99, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy consumption of the proposed building will exceed the energy consumption of the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.2.(3)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating system of the reference or proposed building will not be capable of meeting the heating demands of the building, which could lead to underestimation of the energy used for heating, which could lead to underestimation of the energy used by the building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.2.(4)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the cooling system of the reference or proposed building will not meet the cooling demands of the building to the same level, which could lead to underestimation of the energy used for cooling, which could lead to underestimation of the energy used by the building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.2.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating or cooling systems of the reference or proposed building will not be capable of meeting the heating or cooling demands of the building, which could lead to underestimation of the energy used for heating or cooling, which could lead to underestimation of the energy used by the building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.3.(1)

Intent(s)

Intent 1. To direct Code users to Sections 3.4., 4.4., 5.4., 6.4. and 7.4. for limitations on the compliance calculations.

Provision: 8.4.1.4.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that, where additions are involved, the building energy target of the reference building or the annual energy consumption of the proposed building will be incorrectly calculated, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.4.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that, where additions are involved, the characteristics of existing components will not be accurate, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.1.4.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that, where additions are involved, the existing primary and secondary systems will not be correctly modeled, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.1.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that assessment of conformance will be performed incorrectly, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead toexcessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.2.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the annual energy consumption of the proposed building will not take into account the impact of all components that are addressed by the Code, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.2.(2)

Intent(s)

Intent 1. To exempt building components that comply with the prescriptive requirements and that do not increase the energy consumption of other building components from the application of Sentence 8.4.2.2.(1).

Provision: 8.4.2.2.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the calculations will be performed for a period that is insufficiently long to represent the annual performance or over intervals that are too large to provide enough accuracy in the result, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.2.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the schedules and climatic data for the energy model will use intervals that are too large to provide enough accuracy in the result, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.2.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the calculation methods will not be performed to a level set by an industry-recognized standard, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.2.(6)

Intent(s)

Intent 1. To exempt redundant or back-up equipment whose operation does not impact the building energy consumption from the modeling requirements of Sentence 8.4.2.2.(1)..

Provision: 8.4.2.3.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate or insufficient climatic data will be used, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.3.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that inappropriate, insufficient or incomplete climatic data will be used, which could lead to inaccuracy of the mode, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.4.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effects of thermal mass will not be accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.5.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the model will not perform a dynamic calculation of space temperatures that accounts for all effects, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by

the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.6.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the model will not account for adjacent thermal blocks with significant temperature differences, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.6.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model calculations will use an inappropriate heat transfer coefficient where adjacent thermal blocks are not fully separated by solid partitions or walls, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.7.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the model will not account for all internal and service water heating loads that affect energy performance, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.7.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the sensible and latent loads will not be accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.7.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the interior loads will not be properly adjusted for each time interval based on the appropriate schedule, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.7.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the calculation of sensible loads due to lights will not take into account all effects, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.7.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that equipment located within a conditioned space that affects the energy performance of the building will not be accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not account for heat transfer through all building envelope elements for each thermal block, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent 2. To limit the probability that the dynamic response due to thermal characteristics of the building envelope assemblies will not be accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the effect of solar radiation on heat transfer through walls and roofs will not be accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that heat transfer through fenestration, including skylights, will not be appropriately accounted for in the energy model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the

energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the impacts of solar radiation through fenestration on the heating and cooling loads will not be appropriately accounted for, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface area of roof assemblies will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface area of exterior above-ground wall assemblies will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface area of above-ground exterior floor assemblies will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(8)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface areas of roof assemblies in contact with the ground will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(9)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the insulated surface areas of wall assemblies in contact with the ground will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.8.(10)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the insulated surface area of floor assemblies in contact with the ground will be incorrectly determined, which could lead to incorrect modeling of the reference building, which could lead to overestimation of the energy used by the reference building, which could lead to excessive consumption of energy by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.9.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the model will not account for air leakage through the building envelope, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.10.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the HVAC system of the reference building will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.10.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not take into account the effects of terminal devices and secondary and primary systems, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.10.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the compliance calculations for secondary systems will not take into account all relevant factors, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.10.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not take into account how many hours the primary system, secondary system and terminal device loads are not met, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.2.10.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not take into account the efficiency and capacity of HVAC equipment as a function of part load and all relevant parameters, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(1)

Intent(s)

Intent 1. To state the application of Subsection 8.4.3.

Provision: 8.4.3.1.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model will not accurately reflect the specifications of the proposed building, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that all energy uses addressed in the prescriptive path will not be accounted forin the model, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy model of the proposed building will not accurately reflect the type of thermal conditioning installed, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that building systems or parts thereof that have not been fully specified will be modeled in an unacceptable manner, which could lead to inaccuracy of the model, which could

lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(6)

Intent(s)

Intent 1. To exempt from the application of Sentence 8.4.3.1.(2), envelope assemblies that, due to their small relative size and proximity to similar assemblies, can be alternatively modeled without any significant impact on the energy result.

Provision: 8.4.3.1.(7)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that manually operated fenestration shading devices, whose operation at the appropriate times is unreliable as it requires occupant interaction, will be modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.1.(8)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that permanent shading devices will not be included in the model, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.2.(1)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the operating schedules will not be representative of the intended use for the building or space, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.3.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the internal and service water heating loads will not be representative of the intended use for the building or space, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.4.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the solar absorptance of an envelope component will be set at an inappropriate value, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.4.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the calculation of shading will result in an inappropriate value, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.4.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the air leakage of above-ground wall and roof areas will be set at an inappropriate value, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.5.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the installed lighting power density of dwelling units will be set at too low or too high a value, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.5.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the adjustment factor for installed interior lighting power will be incorrectly set, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.5.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the daylight calculations will be incorrectly performed, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.6.(1)

Intent(s)

Intent 1. To state the application of Sentences 8.4.3.6.(2) to 8.4.3.6.(6).

Provision: 8.4.3.6.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that purchased energy used for heating will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.6.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that purchased energy used for cooling will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.6.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that purchased energy used for service water heating will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.6.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the operating schedule, priority of use and other operational characteristics of the purchased energy will not be included in the model, which could lead to inaccuracy of

the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.6.(6)

Intent(s)

Intent 1. To supersede the requirements of Sentences 8.4.3.6.(2) to 8.4.3.6.(4) and allow secondary use of purchased energy to be modeled in the proposed building compliance calculations.

Provision: 8.4.3.7.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the peak outdoor air ventilation rates will be set at too low or too high a value, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.8.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the throttling range of space-conditioning equipment will be inappropriately set, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.9.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the part-load performance curves will be inappropriately set, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.9.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the part-load performance curves will be inappropriately set, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.3.10.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that ice-making loads will be inappropriately set, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(1)

Intent(s)

Intent 1. To state the application of Subsection 8.4.4.

Provision: 8.4.4.1.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the components and systems of the reference building will not be modeled in accordance with the prescriptive requirements, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that all energy uses addressed in the prescriptive path will not be accounted for in the model, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the characteristics of the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the presence or absence of heating and/or cooling systems in each conditioned thermal block of the reference building will differ from what was specified for the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the climatic data used in the compliance calculations for the reference building will differ from those used for the proposed building, which could lead to inaccuracy of the

model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.1.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the effect of part-load operation on equipment performance will not be accounted for in the compliance calculations of the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.2.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the operating schedules for the reference building will differ from those for the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.3.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the internal and service water heating loads of the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.3.(2)

Intent(s)
Intent 1. To supersede the requirement of Sentence 8.4.4.1.(4) and permit a different set-point temperature in the reference and proposed buildings, where the set-point temperature of the proposed building is lower than 18°C and the heating system to be installed in the proposed building is not capable of providing an appreciably higher set-point temperature than that shown in the specifications.

Provision: 8.4.4.4.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the solar absorptance of each opaque envelope assembly of the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.4.(2)

Objective
OE1

Attributions
8.4.4.4.(2)(a) **[F99-OE1.1]**

Intent(s)

Intent 1. To limit the probability that the solar absorptance of roof assemblies of the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Intent(s)

Intent 1. To supersede the requirement of Sentence 8.4.4.4.(1) and allow the solar absorptance of roof assemblies to be modeled in the reference building in order to give a credit to proposed buildings that have strategies for the solar absorptance of roof assemblies.

Provision: 8.4.4.4.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the fenestration and door areas of the reference building will not be distributed consistently with their distribution in the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.4.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that permanent shading devices and projections will be included in the energy model of the reference building, which could lead to reduced heat gains, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.4.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that exterior shading provided by a nearby structure or building will be modeled differently in the reference and proposed buildings, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.4.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that air leakage rates of the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.4.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that heat transfer through interior partitions in the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could

lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.5.(1)

Intent(s)

Intent 1. To require that the reference building be modeled with light-weight construction so that the effects of thermal mass in the proposed building can be taken into account in accordance with Article 8.4.2.4.

Provision: 8.4.4.5.(2)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermal characteristics of the space of the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.6.(1)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the interior lighting power density of the reference building will not be determined in accordance with the prescriptive requirements, which could lead to overestimation of the installed interior lighting power in the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.6.(2)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the installed lighting power density of dwelling units will be set at too high a value, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.6.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the adjustment factor for installed interior lighting power will be set too high, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.6.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the proportions of radiant and convective heat and the percentages of heat from lights going directly to return air in the reference building will differ from those in the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.7.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the heating systems of the reference building will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.7.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the cooling systems of the reference building will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the

energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.7.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the service water heating systems of the reference building will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.7.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the operating schedule, priority of use and other operational characteristics of the purchased energy of the proposed building will not be correctly captured by the energy model of the reference building, which could lead to inaccuracy of the model, which could lead to underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.8.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that an inappropriate type of HVAC system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.8.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an inappropriate type of HVAC system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.8.(3)

Intent(s)

Intent 1. To exempt from the requirement of Sentence 8.4.4.8.(1) to assign an HVAC system, areas that are small in size relative to the total building and whose loads are accounted for by an adjacent space with similar characteristics.

Provision: 8.4.4.8.(4)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an inappropriate type of HVAC system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.9.(1)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating equipment of the reference building will be excessively oversized, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.9.(2)

Objective

OE1

Attributions

[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the cooling equipment of the reference building will be excessively oversized, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an inappropriate type of heating system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(2)

Intent(s)

Intent 1. To direct Code users to Article 8.4.4.7. for the requirements on purchased energy.

Provision: 8.4.4.10.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating capacity of each type of equipment will be inappropriately set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy type of the heating system of the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that

- the heating capacities of the heating equipment of the reference building will not match the ratio of the heating equipment capacity allocation of the heating equipment of the proposed building, and
- the operating schedule, priority of use, and other operational characteristics will not match those for the energy types used in the proposed building.

This is to limit the probability of inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the heating plant for hydronic systems will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that furnaces will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.10.(8)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that heating equipment performance characteristics as a function of part-load will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an inappropriate type of cooling system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(2)

Intent(s)

Intent 1. To direct Code users to Article 8.4.4.7. for the requirements on purchased energy.

Provision: 8.4.4.11.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the energy type of the cooling system of the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that

- the cooling capacities of the cooling equipment of the reference building will not match the ratio of the cooling equipment capacity allocation of the cooling equipment of the proposed building, and
- the operating schedule, priority of use, and other operational characteristics will not match those for the energy types used in the proposed building.

This is to limit the probability of inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that cooling equipment performance characteristics as a function of part-load will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the cooling plant for hydronic systems will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the cooling capacity of each type of equipment will be inappropriately set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(8)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the cooling capacity of direct-expansion systems in the reference building will be incorrectly determined, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.11.(9)

Objective
OE1

Attributions
[F99, F100-OE1.1]

Intent(s)

Intent 1. To limit the probability that heat rejection to the atmosphere from water-cooled systems will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building and underestimation of the rejection of reusable waste energy, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the direct-contact cooling tower for the reference building will have inappropriate characteristices, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that small-capacity cooling towers will be modeled with more than one cell in the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that larger-capacity cooling towers will be modeled with an inappropriate number of cells in the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the pumping system will not be modeled at a constant speed of operation, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the pumping flow rate will be set at an inadequate value, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.12.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the fan of each cooling tower cell will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.13.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the reference building's HVAC systems will be modeled inappropriately, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.14.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that an inappropriate HVAC system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy

used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.14.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that an inappropriate HVAC system will be selected for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the total static head and efficiency of the hydronic pump of the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the shaft power demand of the hydronic pump in the reference building will not be equivalent to the combined shaft power demand of the pump in the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the total static head and efficiency of the hydronic pump of the reference building will not be set at reasonable values, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the pump-power-versus-flow-rate characteristics will be inappropriately set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that variable-flow pumps will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.15.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the capacity and performance of the heating and cooling equipment of the secondary system for equipment whose rated performance includes pumps is not adjusted to meet the minimum efficiency levels prescribed by Table 5.2.12.1., which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.16.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the amount of outdoor air supplied to the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.16.(2)

Intent(s)

Intent 1. To supersede the requirement of Sentence 8.4.4.16.(1) and not allow demand control ventilation strategies to be modeled in the reference building in order to give a credit to proposed buildings that have demand control ventilation strategies.

Provision: 8.4.4.17.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the temperature schedules for the reference building will not account for the effects of in-floor, in-ceiling or in-wall radiant heating and/or cooling, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.17.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the thermostat throttling ranges of heating and cooling equipment in the reference building will differ from those of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.18.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the space exhaust fans of the proposed building will be modeled inappropriately in the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.18.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the fan-power-versus-flow-rate characteristics will be inappropriately set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.18.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that individual fans will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.18.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that individual variable-air-volume fans will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy

used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.18.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that individual variable-air-volume fans will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the supply airflow rate of secondary systems will be incorrectly determined, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the supply airflow rate of each of the ventilated thermal blocks will be incorrectly determined, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the supply air temperature, supply fan and return fan for Systems - 1 through 5 and 7 of Table 8.4.4.8.-B will be incorrectly set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the supply air temperature, supply fan and return fan for System - 6 of Table 8.4.4.8.-B will be incorrectly set, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the fan power demand of the reference building will differ from that of the proposed building for fans with low power demand, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.19.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the capacity and performance of the heating and cooling equipment of the secondary system for equipment whose performance includes fan systems is not adjusted to meet the minimum efficiency levels prescribed by Table 5.2.12.1., which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.20.(1)

Objective
OE1

Attributions
[F99, F100-OE1.1]

Intent(s)
Intent 1. To limit the probability that the HVAC systems of the reference building will not have heat recovery systems complying with the prescriptive requirements, which could lead to unnecessary rejection of reusable waste energy, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.20.(2)

Objective
OE1

Attributions
[F99, F100-OE1.1]

Intent(s)
Intent 1. To limit the probability that heat recovered from an HVAC system's exhaust air will not be used to preheat outside air, which could lead to unnecessary rejection of reusable waste energy, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.20.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that ice-making machines serving ice rinks and curling rinks will be inappropriately modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Objective
OE1

Attributions
8.4.4.20.(3)(a), 8.4.4.20.(3)(d) **[F100-OE1.1]**

Intent(s)
Intent 1. To limit the probability that water-cooled water chillers serving ice rinks and curling rinks will not be equipped with heat recovery systems that will be modeled appropriately, which could lead to unnecessary rejection of reusable waste energy, which could lead to inaccuracy of the model, which

could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the service water heating system of the reference building will differ from that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(2)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the energy source of the service water heating system of the reference building will not be compatible with that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(3)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)
Intent 1. To limit the probability that the energy source of the service water heating system of the reference building will not be compatible with that of the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(4)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that

- the heating capacities of the service water heating equipment of the reference building will not match the ratio of the service water heating equipment capacity allocation of the proposed building, and
- the operating schedule, priority of use, and other operational characteristics will not match those for the energy types used in the proposed building.

This is to limit the probability of inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(5)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the part-load characteristics of service water heating equipment will be modeled incorrectly for the reference building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(6)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the supply temperature of the service hot water will be set at too high a level, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(7)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the storage temperature of the service hot water tank will be set at too high a level, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(8)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the number of water heaters in the reference building will not match that in the proposed building, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building or underestimation of the energy used by the proposed building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.21.(9)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the circulation pumps of the reference building will be incorrectly modeled, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.

Provision: 8.4.4.22.(1)

Objective
OE1

Attributions
[F99-OE1.1]

Intent(s)

Intent 1. To limit the probability that the part-load performance curves will be improperly calculated, which could lead to inaccuracy of the model, which could lead to overestimation of the energy used by the reference building, which could lead to excessive use of energy, which could lead to an unacceptable effect on the environment.