Commercial Reach Code Proposal Application

Department of Consumer & Business Services
Building Codes Division
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Read the entire code amendment proposal application before completing this form. Please complete all parts before submitting your proposal and refer to the provided checklist.

APPLICANT INFORMATION

Name: Kevin Rose		Date: 12/13/24
Representing (if applicable): Northwest Energy Efficiency Alliance (NEEA)		Phone: 503.688.5437
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City: Portland	State: OR	Zip: 97232
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PROPOSAL INFORMATION

Code section(s): CR1301.3, CR1301.4 (new section)

Briefly explain the subject of your proposal: negates 2024 OEESC amendments to 90.1-2022 that reduce energy savings

INSTRUCTIONS AND CHECKLIST

Fill in all the information above and submit this page with the required supplementary information for Parts I and II. This application may be submitted by mail to the mailing address above or by email to bcd.ptsptech@dcbs.oregon.gov.

■ **Part I** **Code language**
You must provide exact language for your code proposal. Include all code sections that require changes and use the following format to show additions and deletions from the code:

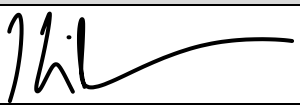
Underline for added text

~~Strikethrough~~ for deleted text

■ **Part II** **Commercial Reach Code proposal criteria**
Provide responses to the criteria questions on page 2 of this application.

Note: One application is required for each code section you are proposing to amend. If this proposal requires changes in other sections of the code for alignment, include those changes as part of this application.

APPLICANT SIGNATURE

Signature:  Date: 12/13/24

COMMERCIAL REACH CODE PROPOSAL CRITERIA

1. Describe the concept and purpose of this proposal.
2. Does this proposal increase efficiency over the Oregon Energy Efficiency Specialty Code energy provisions? If so, explain how and provided any supporting documentation.

   Helpful information to include

   a) How many incremental MBtus will be saved annually?
   b) What is the associated annual energy cost savings?

3. What is the fiscal impact of this proposal?

   Helpful information to include

   a) What is the fiscal impact to the end consumer?
   b) What is the fiscal impact to the builder/contractor?
   c) What is the simple payback of the fiscal impact when considering the annual energy savings?
   d) What is the life-cycle cost, if available?

4. It is important that proposals be shared with stakeholders that will be impacted by them. Was this proposal developed with people or organizations likely to be affected by it? Has it been reviewed or shared with people or organizations likely to be affected by it? If so, who, and if not, why not?

APPLICATION REVIEW

If you submit completed proposed code amendments to the division before the end of the timetable established in the proposal notice the division will forward them to the appropriate advisory board for review. The division will not forward proposed code amendments that are not completed before the end of the timetable.

Part I Code language

CR1301.3 Application. New buildings, other than *data centers*, shall comply with the 2024 ~~1~~4 OEESC as amended by Section CR1301.4 and either Section CR1301.3.1 or CR1301.3.2. *Data centers* shall comply with the 2024 ~~1~~4 OEESC as amended by Section CR1301.4, using Standard 90.1 Section 4.2.1.1, Item a. and Section CR1301.3.3.

< OPTION 1 >

CR1301.4 Amendments to 2024 OEESC. 2024 OEESC Section E301.1 shall be revised to: "**E301.1 Modifications to ASHRAE Standard 90.1.** The provisions of Standard 90.1 are modified by Sections E301.2, E301.3, E301.4 items a, e, and f, and E301.5."

< OPTION 2 >

CR1301.4 Amendments to 2024 OEESC. The 2024 OEESC shall be amended in accordance with Table CR1301.4.

Table CR1301.4. Amendments to 2024 OEESC.

Section	Subsection	Change
E301.4 Power.	b. Section 8.4.1 Voltage Drop.	Revise to "Reserved"
	c. Exceptions to 8.4.2	Revise to "Reserved"
	d. Exceptions to 8.4.3.1 and 8.4.3.2	Revise to "Reserved"
E301.6 Other equipment.	a. Section 10.4.6 Compressed Air Systems.	Revise to "Reserved"
	b. Exceptions to Section 10.4.7.1 and 10.4.7.2	Revise to "Reserved"
	c. Section 10.5.1 Renewable Energy Resources.	Revise to "Reserved"
	d. Section 10.5.1.1 On-site Renewable Energy.	Revise to "Reserved"
E301.7 Additional efficiency measures.	a. Section 11.5.1 Energy Credits Required.	Revise to "Reserved"
	b. Table 11.5.1-1 Energy Credit Requirements by Building Use Type (Adjusted)	Revise to "Reserved"
	c. Section 11.5.2.6 R01: On-Site Renewable Energy.	Revise to "Reserved"

Part II Commercial Reach Code proposal criteria

1. Describe the concept and purpose of this proposal.

This proposal would require Reach Code projects to more comprehensively fulfill the provisions of ASHRAE 90.1-2022. Significant amendments to 90.1-2022 in 2024 OEESC include:

A. removing the provision requiring a minimum amount of on-site renewable energy;
B. reducing the number of required energy credits (by the maximum Renewable Adjustment Credits allowance, per 90.1-2022 Table 11.5.1-2);
C. allowing automated receptacle control and energy monitoring requirements to be traded off for additional efficiency credits (that could potentially be double-counted); and
D. removing requirements related to voltage drop and compressed air.

This proposal seeks to negate these amendments for Reach Code projects.

This proposal also seeks to prompt stakeholder input on these topics to inform development of 2027 OEESC and encourage improved alignment with 90.1. Reducing OEESC deviation from 90.1 increases consistency for industry (especially those working across state lines) and enables effective use of national tools & resources – both of which leads to improved compliance. Limiting amendments to 90.1 comports with the OEESC update process rules (per BCD 15-2022), and avoiding amendments that reduce energy efficiency aids Oregon in achieving its 2030 code efficiency targets (per EO 20-04).

2. Does this proposal increase efficiency over the Oregon Energy Efficiency Specialty Code energy provisions? If so, explain how and provided any supporting documentation.

PNNL's 90.1-2022 Energy Savings Analysis Technical Support Document (TSD) can be used to estimate the impact of items A & B above (renewables requirement, energy credits). Assuming that the energy consumption of the 2024 OEESC is roughly equivalent to the *gross* energy use of 90.1-2022* (excluding the impact of on-site energy generation) and that this proposal results in achievement of the full *net* energy savings of 90.1-2022 (including the impact of on-site energy generation), items A & B collectively improve site EUI from 36.9 to 35.4 in CZ 4C and from 43.8 to 41.7 in CZ 5B (see TSD Tables 10 and 16). This equates to 4.1% and 4.8% improvements in whole building site energy savings in CZ 4C and 5B, respectively**. (Note: these values are not adjusted to account for the OCRC's further 10% efficiency improvement).

*Direct comparison of gross and net energy savings from the TSD to the 2024 OEESC is complicated by the fact that PNNL assumes that some building types achieve a portion of their energy credits by installing renewable energy capacity beyond the minimum requirement (credit category R01). As shown in the table below, the 90.1-2022 prototypes in the TSD achieve a roughly equivalent number of credits through efficiency measures as required by 2024 OEESC.

	Credit Requirements				**TSD Credit Assumptions**		**2024 OEESC vs. 90.1 TSD Credit Achievement**			
	2024 OEESC		**Model 90.1-2022**		**Credits from EE (non R01)**		**Net Credits Met Via EE**		**Net Credits Met Via Renewables**	
Building Type	**4C**	**5B**	**4C**	**5B**	**4C**	**5B**	**4C**	**5B**	**4C**	**5B**
Multifamily	32	41	46	50	32	33	0	8	-14	-17
Health care	47	47	50	50	45	44	2	3	-5	-6
Hotel/motel	42	34	50	46	40	34	2	0	-10	-12
Office	43	42	50	50	36	34	7	8	-14	-16
Restaurant	49	49	50	50	50	50	-1	-1	0	0
Retail	38	36	50	50	37	35	1	1	-13	-15
Education	41	39	50	50	34	31	7	8	-16	-19
Warehouse	30	30	50	50	50	50	-20	-20	0	0
Weighted Average	**36.5**	**38.4**	**48.6**	**49.7**	**37.6**	**37.5**	**-1.0**	**0.9**	**-11.0**	**-12.2**
Statewide Average	**37.5**		**49.2**		**37.5**		**-0.1**		**-11.6**	

**Energy efficiency can contribute over 1% whole building site energy savings. After applying the PNNL building type weighting factors, 90.1-2022 requires 12.0 more energy credits in CZ 4C and 11.4 more credits in CZ 5B than 2024 OEESC. Since 1 credit equates to a 0.1% whole building energy savings, meeting the unamended 90.1-2022 energy credit targets and only

selecting energy efficiency credit options can achieve a weighted average of up to 1.2% (CZ 4C) and 1.14% (CZ 5B) energy efficiency improvements beyond 2024 OEESC

Items C and D above contribute additional savings that are not quantified here. For item C, the amendment language for 8.4.2 (automated receptacle controls) does not include language preventing double-dipping with the amendments to 8.4.3 & 10.4.7 (energy monitoring). For item D, savings estimates could be sourced from PNNL analysis from earlier versions of 90.1 when these provisions (voltage drop, compressed air) were first adopted.

3. What is the fiscal impact of this proposal?

All the provisions introduced by this proposal exist in the unamended 90.1 (and most are also in IECC). As such, robust economic analysis for all elements of this proposal was conducted through the national code development process and met 90.1's cost-effectiveness criteria.

4. It is important that proposals be shared with stakeholders that will be impacted by them. Was this proposal developed with people or organizations likely to be affected by it? Has it been reviewed or shared with people or organizations likely to be affected by it? If so, who, and if not, why not?

All the provisions introduced by this proposal exist in the unamended 90.1 (and most are also in IECC). As such, robust stakeholder engagement was conducted through the national code development process, including vetting by commercial developer and renewable energy interests.