Code Amendment Proposal Application OSSC 22-08

Department of Consumer & Business Services
Building Codes Division
1535 Edgewater NW, Salem, Oregon
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
Phone: 503-378-4133, Fax: 503-378-2322
Oregon.gov/bcd

APPLICANT INFORMATION	
Name:	Dusty Andrews
Representing:	Structural Engineers Association of Oregon
Email address:	jane@seao.org
PROPOSAL INFORMATION	
Specialty code:	Oregon Structural Specialty Code (OSSC)
Code section(s):	1609.1
Briefly explain the subject of your proposal:	This proposal adopts state wind maps in the format previous OSSC cycles has taken (design speed per county).

Code Review Committee Outcomes

Nov. 9, 2021 – Approved.

STRUCTURAL ENGINEERS ASSOCIATION OF OREGON
9220 SW Barbur Blvd, #119, PMB #336, Portland, OR 97219
503.753.3075
www.seao.org • E-mail: jane@seao.org

PART I – CODE AMENDMENT LANGUAGE

You must provide exact language for your code proposal. Failure to provide language will invalidate the application. Include all code sections that require changes and use the following format to show additions and deletions from the code — strikethrough for deleted text and underline and bold for new text.

Note: Where applicable, the proposed code language should show how the existing Oregon amendments will integrate with the base model code or if the proposal is rescinding an existing Oregon amendment. Any modification to the new model code should note or reflect any current Oregon amendments related to this language.

Click or tap here to enter text.

1609.1.1 Determination of Wind Loads

Wind loads on every building or structure shall be determined in accordance with Chapters 26 to 30 of ASCE 7 using the basic wind speed, V, as determined in section 1603. The ~~type of opening protection required, the basic design wind speed, V, and the~~ exposure category for a site is permitted to be determined in accordance with Section 1609 or ASCE 7. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:

1. Subject to the limitations of Section 1609.1.1.1, the provisions of ICC 500 shall be permitted for applicable Group R-2 and R-3 Buildings
2. Subject to the limitations of 1609.1.1.1, residential structures using the provisions of AWC WFCM.
3. Subject to the limitations of 1609.1.1, residential structures using the provisions of AISI S230.
4. Designs using NAAMM FP 1001.
5. Designs using TIA-222 for antenna supporting structures and antennas, provided that the horizontal extent of Topographic Category 2 escarpments in Section 2.6.6.2 of TIA-222 shall be 16 times the height of the escarpment.
6. Wind tunnel tests in accordance with ASCE 49 and sections 31.4 and 31.5 of ASCE 7.

The wind speeds in ~~figure 1609.3(1) through 1609.3(12)~~ are basis design wind speeds, V, and should be converted in accordance with Section 1609.3.1 to allowable stress design wind speeds, V_{asd}, when the provisions of the standards referenced in exception 4 and 5 are used.

1609.1.1 Applicability

The provisions of ICC 600 are applicable only to buildings located in exposure B or C as defined in Section 1609.4. The provisions of ICC 600, AWC WFCM and AISI S230 shall not apply to buildings sited on the upper half of an isolated hill, ridge, or escarpment meeting all of the following conditions:

1. The hill, ridge or escarpment is 60ft (18,288 mm) or higher if located in Exposure B or 30 feet (9,144mm) or higher if located in exposure C.
2. The maximum average slope of the hill exceeds 10 percent
3. The hill, ridge or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 2 miles (3.22 km), whichever is greater.

1609.3 Basic design wind speed

The basic design wind speed, V, in mph for the determination of the wind loads shall be determined by Table 1609.3. Areas of special wind regions in Table 1609.3 shall be identified using Figure 1609.3. ~~Figures 1609.3(1) through 1609.3(12). The basic design wind speed, V, for the use in the design of Risk Category II buildings and structures shall be obtained from figures 1609.3(1), 1609.3(5) and 1609.3(6). The basic design wind speed for Risk Category III buildings and structures shall be obtained from Figures 1609.3(2), 1609.3(7) and 1609.3(8). The basic design wind speed, V, for use in the design of Risk Category IV buildings and structures shall be obtained from Figures 1609.3(3), 1609.3(9) and 1609.3(10). The basic design wind speed, V, for sue in the design of Risk Category I buildings and structures shall be obtained from Figures 1609.3(4) 1609.3(11) and 1609.3(12). The basic design wind speed, V, for the special wind regions near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The basic design wind speeds, V, determined by the local jurisdiction shall be in accordance with Chapter 26 of ASCE 7.~~

~~In non hurricane-prone regions, when the basic design wind speed, V, is estimated from regional climatic data the basic wind speed, V, shall be determined in accordance with Chapter 26 of ASCE 7.~~

~~Figure 1609.3(1)~~

~~Figure 1609.3(2)~~

~~Figure 1609.3(3)~~

~~Figure 1609.3(4)~~

~~Figure 1609.3(5)~~

~~Figure 1609.3(6)~~

~~Figure 1609.3(7)~~

~~Figure 1609.3(8)~~

~~Figure 1609.3(9)~~

~~Figure 1609.3(10)~~

~~Figure 1609.3(11)~~

~~Figure 1609.3(12)~~

INSERT TABLE 1609.3 FROM 2019 OSSC W/ NO CHANGES

INSERT FIGURE 1609.3 FROM 2019 OSSC W/ NO CHANGES

PART II – CODE AMENDMENT PROPOSAL REQUIREMENTS

Generally, proposals should only suggest amending the technical and scientific matters within the scope of the specialty code. Administrative matters are adopted and amended to align with statutes and rules governing the state building code.

Those administrative matters not regulated by a specialty code, include, but are not limited to:

- Licensing or certification requirements, or other qualifications and standards for businesses or workers;
- Structure or equipment maintenance requirements;
- Matters that conflict with federal or state law; and,
- Matters that conflict with other specialty codes or publications adopted by the division.

☒ **Review the statutes and rules governing the state building code and ensure that your proposal is enforceable by the specialty code for which you are proposing an amendment.**

PART III – CODE AMENDMENT PROPOSAL CRITERIA

Code amendment proposals must conform to the requirements in ORS 455.020, ORS 455.030, ORS 455.110, and OAR 918-008-0060. All proposals must provide justification and the particular circumstances requiring the amendments. View the proposal criteria on page 3 of this application.

Code Amendment Proposal Criteria

Proposal

1. Describe the concept and purpose of this proposal.

This proposal carries forward the concept of a similar proposal in the 2019 OSSC to take the ASCE 7/IBC wind maps and set a wind speed by county. The 12 figures of the IBC are replaced by a table of wind speed by county with a figure of Oregon provided to determine special wind zones.

2. What problem in the existing Oregon code or national model code is this proposal solving? How does this amendment address the issue? If you have evidence demonstrating the problem, submit that information.
   a) If this proposal corrects any unforeseen or probable outcomes resulting from the application of a code section, explain how.
   b) If this proposal corrects inadequate application by a code section to a method, material or design, explain how.
   c) If this proposal eliminates conflicting, obsolete, or duplicative code provisions or standards between Oregon-adopted codes, statutes or regulations, explain why.
   d) If this proposal is for a fire or life safety matter, or is it otherwise needed to protect the health, safety, welfare, comfort and security of occupants and the public, explain why.
   e) If this proposal is necessary to address unique geographic or climatic conditions within Oregon, explain why.
   f) If there are alternatives to this proposal that solve the problem, explain why this proposal is the best or a necessary solution.
   g) If this proposal provides for the use of unique or emerging technologies, or promotes advances in construction methods, devices, materials and techniques, explain how.
   h) If this proposal meets any energy conservation or indoor air quality requirements, explain how.
   i) If this proposal involves the adoption of an electrical or plumbing building product, note if the appropriate advisory board approved the product.

This proposal clarifies the national wind maps (IBC/ASCE7) to the standard format of the OSSC which provides a design wind speed by county. There is no significant technical change from the model code with only a small change in wind speed occurring in some areas by taking the highest wind speed across a county and applying it to the entire county. The technical change of this proposal (Table 1609.3) is unchanged from the previous OSSC (2019).

3. Has this been proposed at the national model code level. If so, explain when it was proposed, what happened, and why it was not adopted. Provide all associated national model code hearing information and background.

This is only applicable to Oregon so no similar code is proposed at the national level.

Implementation And Fiscal Impact

1. Explain how the proposed provisions would be enforced? Are additional inspections or permits required? Describe any necessary equipment, training, tests or special certifications.

This is enforced by the plans examiner checking the design wind speed. No additional inspections, equipment or training is required.

2. What is the fiscal impact of this proposal? Provide a cost benefit analysis and include the resources or methods you used to determine the fiscal impact.
   a) If this proposal adds to the cost of construction, explain how the added cost contributes to the health and safety of occupants, or is necessary to conserve scarce resources.
   b) If there are any other adverse fiscal impacts or cost savings passed on to the general public, the construction industry, local and state governments, and small businesses, an interested person must describe the added or reduced cost of a proposed code amendment, and describe the adverse fiscal impact or cost savings in relation to the current Oregon specialty code.
   c) If this proposal will affect the cost of development of a detached single-family dwelling, please indicate the cost. For the purposes of illustrating the change on the cost, please use a 6,000-square-foot parcel and the construction of a 1,200-square-foot detached single-family dwelling on that parcel. The information on the cost must be sufficient to assist the division in preparing a housing cost impact statement.

No change from 2019 OSSC. Results in a very minor increase in wind pressures (<10%) for some structures over model code. This will have no impact on the cost of a single family home as the change is extremely minor and only impacts the lateral force resisting system of some wind controlled buildings.

Impacted Stakeholders And Other Specialty Codes

1. 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?

This proposal was developed by the Structural Engineers of Oregon

2. Does this proposal impact other specialty codes or statewide programs?

No