

Draft Version 2 – November 2, 2009

Note: This draft is a compilation of Chapter 1, Administration from the 2009 International Building Code (that will be adopted as the 2010 Oregon Structural Specialty Code in April, 2010) with the Oregon amendments and applicable portions of the Oregon Electrical Specialty Code along with references to the applicable ORS/OAR's relating to electrical installations (for example, I recall an ORS that restricted the use of used electrical equipment that could be referenced in Section 104.9.1)

CHAPTER 1

ADMINISTRATION

SECTION 101

GENERAL

101.1 Title. These regulations shall be known as the Oregon Solar Energy Code, hereinafter referred to as “this code.”

101.2 Scope.

[OR] 101.2.1 General. The scope of this code is as provided in ORS xxx.xxx

The provisions of this code shall apply to the installation, alteration, replacement and repair of solar Photovoltaic (PV) systems including the electrical and structural requirements.

This code shall not apply to the installation, alteration, replacement, repair of PV systems in a public way.

101.3 Intent. The purpose of this code is as provided in ORS xxx.xxx and to establish the minimum requirements for the installation of PV components and support systems to safeguard the public health, safety and general welfare through structural strength, electrical requirements means of egress and safety to life and property from fire and other hazards associated with the installation of PV systems-and to provide safety to fire fighters and emergency responders during emergency operations.

The purpose of this code is not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

101.4 Statutory References. This code is adopted pursuant to Oregon Revised Statutes. Where in any specific case this code and the statutes specify different requirements, the statute shall govern. Statutes related to this code are ORS 455.010 through 455.895 and ORS 447.210 through 447.310

SECTION 102

APPLICABILITY

102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

101.4.1 Electrical. Where specifically not addressed in this code, the provisions of the Oregon Electrical Specialty Code (OESC), based on the NFPA 70-National Electrical Code, shall apply to the installation and connection of electrical systems.

101.4.2 Structural. Where specifically not addressed in this code, the provisions of the Oregon Structural Specialty Code (OSSC), shall apply to the design and installation of structural support systems for PV installations.

Exception: The structural requirements for PV installations for detached one-and-two-family dwellings and multiple single-family dwellings (townhouses) not more than three

stories above grade plan in height with a separate means of egress and their accessory structures shall comply with the applicable prescriptive requirements of the Oregon Residential Specialty Code.

102.5 Partial invalidity. In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

Existing PV installations. The legal installation of any PV system existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

(or Aeron's version)

“Existing PV installations: Existing PV installations that complied with minimum electrical safety code standards in effect at time of installation shall not be considered in violation of the current minimum PV installation standards unless the use or occupancy is changed, requiring different methods, alterations or additions or the International Fire Code or Building Official requires updates to protect the safety of the occupants and public.”

SECTION 103

DEPARTMENT OF BUILDING SAFETY

Note: Unless amended by a municipality under the authority of ORS 455.040, Sections 103.1 through 103.3 apply.

103.1 Enforcement agency. The Department of Building Safety is the Authority Having Jurisdiction and the official in charge thereof shall be known as the building official.

103.2 Appointment. The building official shall be appointed by the chief appointing authority of the jurisdiction.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the building official.

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL

[OR] Note: Unless amended by a municipality under the authority of ORS 455.020, Sections 104.1, 104.3, 104.6 apply.

104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the installation, alteration, replacement, repair of PV systems including the electrical and structural requirements inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.3 Notices and orders. The building official shall issue all necessary notices or orders to ensure compliance with this code.

104.4 Inspections. The building official shall make all of the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

104.5 Reserved.

104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a

structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

104.7 Department records. The building official shall keep official records as dictated by OAR 166-150-0020 where a county has jurisdiction; OAR 166-200-0025 where a city has jurisdiction; and OAR Chapter 166 Division 300 et al for the cities and counties where the State of Oregon has jurisdiction. Such records shall be retained in the official records for the period indicated in the respective OARs noted above. The building official shall maintain a permanent record of all permits issued in flood hazard areas, including copies of inspection reports and certifications required in Section 1612.

104.8 Liability. See ORS 30.265 for regulations relating to liability.

Show ORS 30.265

104.9 Approved materials and equipment. Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

104.9.1 Used materials and equipment. The use of used materials which meet the requirements of this code for new materials is permitted.
(I recall that there is an *ORS reference to used electrical components*)

104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative, provided the building official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

104.12 Request for ruling. ORS 455.060 provides for state rulings on acceptable materials, designs and methods of construction. When a ruling has been issued, ORS 455.060(4) applies.

Show ORS 455.060

SECTION 105

PERMITS

105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the installation of a PV system or the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

105.2 Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

Temporary testing systems: A permit shall not be required for the installation of any temporary system

(Note; Comments have been submitted (Brad Roast) to exempt some installations such as roof mounted residential systems)

105.2.1 Emergency repairs. Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.

105.2.2 Public service agencies. A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.

105.3 Application for permit. To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the building safety department for that purpose. Such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate

the proposed building or work.

3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section 107.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the building official.

105.3.1 Action on application. The building official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the building official shall reject such application in writing, stating the reasons therefor. If the building official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the building official shall issue a permit therefor as soon as practicable.

105.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.4 Validity of permit. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of the jurisdiction.

105.5 Expiration. Every permit issued shall become invalid

unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

105.7 Placement of permit. The building permit or copy shall be kept on the site of the work until the completion of the project.

SECTION 107

SUBMITTAL DOCUMENTS

107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted in two or more sets with each permit application. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

107.2 Construction documents. Construction documents shall be in accordance with Sections 107.2.1 through 107.2.5.

107.2.1. Construction Documents: The following construction documents shall be provided to the Authority Having Jurisdiction at the time

of permit application.

107.2.2 Support Structure: The construction documents shall describe,

with sufficient clarity, the structure required to support the components and to resist the applicable snow, seismic, wind and uplift forces as defined in the Oregon Structural Specialty Code (OSSC). The construction documents, including calculations, shall be prepared by an Architect or Engineer licensed to practice in the state of Oregon and shall be designed in accordance with the requirements of the OSSC

Exceptions:

1. Construction documents showing the support
 - a. structure shall not be required when the installation complies with section 302

107.2.3 Component Attachment: The construction documents shall provide attachments designed to resist the applicable snow, seismic, wind and uplift forces on the solar components as defined in the OSSC. The construction documents, including calculations, shall be prepared by an Architect or Engineer licensed to practice in the state of Oregon and shall be designed in accordance with the requirements of the Oregon Structural Specialty Code.

Exception: Construction documents showing component attachment shall not be required to be prepared by an Architect or Engineer licensed in the State of Oregon when the manufacturers installation instructions provide designs sufficient for the applicable snow, seismic, wind and uplift loads.

107.2.4 Electrical Diagram: The construction documents shall show.....

Exception: Construction documents showing the electrical diagram, etc., etc. shall not be required unless one of the following occur,

1. The completed system exceed 600 amps or 600 volts
2. The system is installed in or enters a hazardous location as defined in Articles 500-516 of the OESC.

107.2.5 Building and Site Plan: The construction documents shall show and describe, with sufficient clarity, the location(s) of the solar components in relation to buildings, structures, property lines.....and shall show compliance with local zoning, planning, solar access requirements, etc, if applicable, as required by the AHJ.

Exception: Subject to the approval of the Building Official, construction documents showing the building and site plan shall not be required when, due to the nature of the project, it can be demonstrated that there are no significant impacts to the items in section ?? (above) (or something like that).

107.2.6 Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.

107.2.7 Means of egress. The construction documents shall show in sufficient detail any modifications or changes to the location, construction, size and character of all portions of the means of egress. The means of egress shall comply with the provisions of the OSSC

107.2.8 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

107.2.8.1 Design flood elevations. Where design flood elevations are not specified, they shall be established in accordance with OSSC Section 1612.3.1.

107.3 Examination of documents. The building official shall examine or cause to be examined the accompanying submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

106.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved, in writing or by stamp, as “Reviewed for Code Compliance.” One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or a duly authorized representative.

107.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

107.3.3 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

107.3.4 Design professional in responsible charge.

107.3.4.1 General. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties. The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

107.3.4.2 Deferred submittals. For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building

official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.

107.4 Amended construction documents. Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

107.5 Retention of construction documents. One set of approved construction documents shall be retained by the building official for a period of not less than that dictated by OAR 166-150-0020 where a county has jurisdiction; OAR 166-200-0025 where a city has jurisdiction; and OAR 166-300 et al for the jurisdictions where the State of Oregon has jurisdiction. One set of approved plans and specifications shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress. The building official shall maintain a permanent record of all permits issued in flood hazard areas, including copies of inspection reports and certifications required in OSSC section 1612.

SECTION 108

TEMPORARY STRUCTURES AND USES

108.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits

shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

108.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

108.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.

108.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION 109

FEES

Note: Unless amended locally by a municipality under the authority of ORS 455.020 and 455-210, the requirements of Section 109 apply.

109.1 Payment of fees. A permit shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

109.2 Schedule of permit fees. On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority under authority of ORS 455.020 and 455.210.

Reference box for ORS 455.210

Need to insert section 109.2.1 "Plan review fees" from OSSC

(From SOC-ICC)

FEES

Fees for all required building, plumbing or electrical permits will be calculated using the current and applicable AHJ fee schedule available with the Authority Having Jurisdiction.

In general, building permit fees will be based on the valuation of the structural elements for the solar panels, including the mounting brackets and rails and the cost of labor to install them. Excluded from the permit valuation is the cost of the solar equipment, including the solar collector panels, inverters and preheat tanks.

Valuation of Project = Total Project Price – Solar Equipment Value

Building Permit Fees: Based on valuation.

Electrical Fees: 5kva or less = \$79.00; 5.01 to 15kva = \$94.00; 15.01 to 25kva = \$156.00; 26kva and above = \$156.00 + \$2 per each kva above 25.

Plumbing Fees: Water Heater permit = \$40.00

109.3 Building permit valuations. The applicant for a permit

Portions missing-

If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.

109.4 Work commencing before permit issuance. Any person who commences any work on a, PV installation or a PV support structure system before obtaining the necessary permits shall be subject to an investigation fee equal to the permit fee that shall be in addition to the required permit fees.

Exception: Work as permitted in Section 105.1

109.5 Related fees. The payment of the fee for the construction, or alteration, for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

109.6 Refunds. The building official is authorized to establish a refund policy.

SECTION 110

INSPECTIONS

110.1 General. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other laws or ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other laws or ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

110.2 Preliminary inspection. Before issuing a permit, the building official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

110.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.10.

110.3.1 Footing and foundation inspection. Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job.

~~110.3.2 Concrete slab and under floor inspection. Concrete slab and under floor inspections shall be made after in slab or under floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.~~

110.3.3 Lowest equipment elevation. In flood hazard

areas; the elevation certification required in OSSC Section 1612.5 shall be submitted to the building official.

*This section needs work in order to only apply to
Reference to applicable OESC section ? for electrical equipment.*

110.3.4 Other inspections. In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

110.3.5 Special inspections. For special inspections, see Section OSSC 1704.

110.3.6 Final inspection. The final inspection shall be made after all work required by the building permit is completed.

110.4 Inspection agencies. The building official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

110.5 Inspection requests. It shall be the duty of the holder of the building permit or their duly authorized agent to notify the building official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

110.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.

SECTION 112

SERVICE UTILITIES

Not in the adopted OSSC. But, some similar section should be here perhaps from the OESC.

SECTION 113

BOARD OF APPEALS

113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code the local jurisdiction shall establish an appeals procedure.

113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. An appeals board, when appointed, shall have no authority to waive requirements of this code.

113.3 Qualifications. An appeals board, when appointed, shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction.

113.4 Appeal of decisions of building official. ORS 455.475 provides an alternative appeals process to that set forth by the local municipality.

ORS 455.475 and other info from OSSC

SECTION 114

VIOLATIONS

114.1 Prohibited acts are as described in ORS 455.450.

ORS 455.450

114.2 Notice of violation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal

action or condition and the abatement of the violation.

114.3 Prosecution of violation. If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

114.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

114.5 Penalties. Penalties for violations are prescribed in ORS 455.895 or as adopted by the municipality having authority.

Local authority to levy penalties is limited to violations of code Application only.

Insert ORS 455.895

SECTION 115

STOP WORK ORDER

115.1 Authority. Whenever the building official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the building official is authorized to issue a stop work order.

115.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

115.3 Unlawful continuance. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to

remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

End of chapter 1

(From BCD Draft)

Chapter 3: ~~Structural~~ Installation Requirements

Racking Installations; General:

Frames, braces and attaching devices exposed to the weather shall be constructed of materials approved for exterior locations and protected from corrosion or deterioration. Racking and racking supports shall be mounted to structural components and will be attached to the structural components through the use of screws, bolts, j-bolts, or other approved means in accordance with manufacturer's or engineer's instructions. Screws smaller than No. 10 or bolts smaller than ¼" shall not be allowed, in addition, the use of plywood, particle board or chipboard as the sole supporting means for racking shall not be allowed.

Arrays: Roof Mounted

Array panels shall be anchored to roof structural components in a manner to resist wind, snow, vibration or seismic loading in compliance with the applicable Oregon Building Codes. Anchors secured to and through roofing material shall be made in a manner to maintain the water integrity of the roof covering. Roof drainage shall not be impaired by the installation of panels or racking. Panels which are not an integral part of the roofing system shall be installed in a manner so as to preserve the integrity of the roof surface; inspection of the attachment method shall occur prior to setting of panels.

Arrays: Pole or other structure mounted systems:

Arrays mounted to pole or structures other than a roof shall be anchored in a manner to resist wind, snow, vibration, or seismic loading. Engineered drawings detailing soil conditions, depth of concrete base, concrete base rebar makeup may be required to approval of permit. Any pole mounted solar installation shall have the concrete or supporting base no less in

depth than the frost line as required in the Oregon Structural Specialty Code. Alternate attachment and support methods may be approved by the authority having jurisdiction.

Arrays: Ground Mounted

In addition to being anchored in a manner to resist wind, snow, vibration, or seismic loading, panels installed at ground level shall be at least six (6) inches (152 mm) above the ground level.

Equipment Location:

Components shall not be so located as to interfere with the normal operation and use of windows, doors, or other required facilities or obstruct access to equipment such as: inverters, batteries, electrical disconnects, meters, valves. Array Panels constructed of combustible materials shall not be located on or adjacent to construction required to be of non-combustible materials or in special fire areas unless approved by the Authority Having Jurisdiction.

Controls:

Required electrical, mechanical, safety, and operating controls shall be of such design and construction as to be suitable for installation in the environment in which they are located.

Protection:

Any portion of the solar system installed where it may be subjected to mechanical damage shall be guarded against such damage by being installed behind barriers such as bollards, fences, or other approved means or when located within a garage be elevated a minimum of 48” above finished garage floor or located out of the normal path of a vehicle.

Fire Safety Requirements/Fire Fighter Access:

Solar arrays which function as building components shall comply with the Building Code, and shall not reduce the required fire-resistance or fire classification of the structure. Examples include but are not limited to: curtain walls, membrane roofing, sky lights and solar windows.

On residential structures, solar arrays shall maintain a minimum clearance of 36” from all edges, peaks, valleys, roof access points, skylights. In addition, a minimum 36” wide pathway shall be maintained to access skylights, roof hatches, HVAC equipment or other equipment requiring maintenance. On commercial structures a 48” wide pathway shall be maintained from all edges, peaks, valleys, roof access points, skylights. In addition, a minimum 48” wide pathway shall

be maintained to access skylights, roof hatches, HVAC equipment or other equipment requiring maintenance, this pathway shall be directly over roof structural members. (See attached examples for best design practices). Installation of conductors, conduits, combiner boxes, disconnects shall be made in such a manner as to not create a tripping hazard or impede fire-fighter access nor cross through the required pathway.

Each solar array string shall be installed with a visible D/C disconnect. This disconnect shall be marked "Array # ___ D/C disconnect". Letters shall be a minimum of 1" in height, suitable for the environment and red in color.

This space reserved for examples of "best practice" installations relating to fire fighter access

Identification of Solar Photovoltaic System Components in Common System Configurations.

(From SOC-ICC)

Structural

The following provisions apply when the solar collectors and underlying substructure (mounts, rails, etc.) are designed to meet the loading requirements of the Oregon Residential Specialty Code or the Oregon Structural Specialty Code. The prescriptive requirements as described in this section are assumed to meet the residential code requirements and therefore will not require the system be design by a registered Oregon engineer. ***An engineer registered in Oregon must complete the design and details of all other systems not meeting the prescriptive requirements provided in this guide.***

A project will qualify as a prescriptive installation with an acceptable supporting roof structure if all of the following criteria are met:

- 1. Roof structure:** The supporting roof framing shall be of typical residential construction with multiple parallel wood roof rafters or trusses. Minimum rafter or truss chord size is 2x4 and maximum spacing is 2 ft. on center. See attached diagram. #1A
- 2. Roof materials:** Roofing material must be either standing seam metal, single layer wood shingle or shake, or not more than two layers of composition shingle. Concrete or tile roofs will require structural review.
 - a. Loading:** Collectors are either directly attached to the roof framing or are mounted to continuous rails that are attached directly to the roof framing. These attachments must be anchored to roof framing at a spacing no greater than 4 ft. on center maximum or per manufacturer's instructions. Collector and mounting hardware (rails, frame, etc) weight shall not exceed 4.5 pounds per square foot (psf). Solar thermal collector weight shall include the weight of the working fluid inside the collector. See attached diagram #1A.
- 3. Height:** Maximum panel height above roof shall be 18" from top of panel to roof surface. See attached diagram #1B.

For additional information regarding the structural requirements for solar panel installations, please contact the AHJ local building department at (insert your jurisdiction here).

Permit Submittal Requirements

The following information shall be submitted for each permit application for a PV installation.

- 1. Structural Plans**
 - a. Prescriptive system.** If the system meets all of the prescriptive requirements

of the structural section of this program guide, no structural plans and calculations will be required. Data showing that the solar installation meets the prescriptive requirements must be included with the site plan.

b. Designed elements.

- 1) If any of the prescriptive requirements for roof structure, roof materials, loading or height are not met, then structural calculations by an Oregon engineer showing complete details for the rails, support struts and roof attachments must be provided. In addition, stamped calculations verifying adequacy of the roof construction are required.
- 2) In the case where the support struts raise the panel height greater than 18” above the roof but all other prescriptive requirements of this program guide are met, then structural calculations by an Oregon engineer and details only for the support struts and its connections are required. In some cases, manufacturer’s information and installation details may be substituted for the required engineering.

2. Elevation Drawings

For installations where the panels will not be mounted flush with the roof, a simple building elevation will be required to measure the height of the installation. The elevation must show the height of the building, and the height of the solar installation, but does not need to show other building details, unless a Design Review will be required.