

# 2017 Seattle Electrical Code Proposed Changes

Section	Description of Change	Explanation
<b>Article 80</b>		
80.2 Purpose	Updated references from 2014 to 2017 for WAC and NEC	
80.3 Scope	Updated references from 2014 to 2017 WAC	
80.1 Authority	Added additional language about the jurisdiction of the Department as it relates to the electrical inspection program	The changes in this section mirror language found in other Seattle construction codes relating to jurisdiction of the department. See mechanical code 108.1
80.11 Designees	Language was added that describes how the code official can appoint designees.	The changes in this section mirror language found in other Seattle construction codes. See mechanical code 108.2 Designees.
80.50 (B) (2) Like-in-kind replacement	Added "single lead acid batteries" to list of items that don't need a permit because they are a "like-in-kind" replacement.	This change restricts the ability to switch out batteries without a permit to systems and installations utilizing only lead acid batteries. Systems that use other types of batteries are listed and a third party (inspector) needs to verify that the correct battery is being utilized per the system or equipment's listing.
80.50 (B) (8) Like-in-kind replacement	Added a new subsection that allows lead acid batteries that power listed UPS systems to be replaced without a permit by factory authorized technicians.	Lead acid batteries are often used in Uninterruptible Power Systems (UPS) for cellphone tower, hospitals and other uses. Lead acid batteries are the oldest type of battery and are so common place that they don't need to be verified through inspection.
80.50 (C) Work Exempt from Permitting Requirements	Added "and installation of optical fiber cables in (4)	This is being slightly changed to reflect the names of the sections (communications systems and optical fiber cables) being referenced in (C)(4).
80.51 (B)(1) General	References to a specific number of plan sets and specifications have been eliminated. Applicants are now required to submit construction documents electronically.	This section is being updated to reflect that SDCI no longer accepts paper plans.
80.51 Plans and Specs. (B) (1) (h) (1)-(2)	The references to a specific number of plan sets that must be submitted for photovoltaic and renewable energy systems has been removed.	This subsection is being updated to reflect that SDCI no longer accepts paper plans.

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80.51 (B) (1) (h) (2)-(3)	The rating of photovoltaic and other renewable energy systems has been updated from 7 kW to 7.7 kW.	The systems rating was changed to 7.7 to align with the Seattle fee schedule. This change has been made to reflect that the industry generally produces small systems rated up to 7.7 KW, not 7 kW.
80.51 (B) (1) (h) Informational Note No. 1 and No. 2	Removes language related to size of plan sets up to 26 kW systems and letting applicants know that they cannot submit plans for these projects online.	These changes reflect that the City no longer accepts paper plans and that all documents can be submitted electronically.
80.51 (B) (2)	The need for three sets of fire alarm system plans has been eliminated.	The City no longer accepts paper plans.
80.51 (B) (3)	The need to put plans on blueprint quality paper and references to scanning dimensions has been eliminated. A new amendment is added that clarifies that the color red is to be reserved for plan reviewer use on electronic plans.	The City no longer accepts paper plans. Limiting the use of “redmarks” on plans to plans examiners will help differentiate the official review comments from other information on the plan set.
80.52 (1) General Informational Note	The “Department of Planning and Development” has been removed from the Note and replaced with the “Department of Construction and Inspections”	This change reflects SDCI’s new name.
80.52 (B)	Removed references to one set of plans and microfilm.	The City no longer accepts paper plans.
<b>Chapter 1—General</b>		
Definitions Part I General	Two new sentences have been added stating that the Department of Construction and Inspections administers the electrical code and that the department is under the control of the Director of SDCI.	These two sentences were added to clarify the scope and power of the department as the primary enforcer of the code and its administrator, the Director.
110.13 (C) Locations	Electrical equipment cannot project into certain areas of a building regulated by the building code.	This clarifies the parts of the means of egress that cannot be infringed upon by electrical equipment.
110.16	The changes in this section combine information from the old 110.17 Arc-Flash Protection with some Seattle amendments. Language from NFPA 70E 130.5 (D) was added to indicate what pieces of information must be included on the arc-fault plate or label.	This section contains amendments recommended by Jim Degnan about Arc-Flash Protection. Language concerning the marking of service equipment is found elsewhere so it has been deleted.
110.21	These changes clean-up a mistake that was made in the last Seattle Electrical Code ordinance adoption with the titles and numbering.	Trying to improve the quality of the code.

Section	Description of Change	Explanation
<b>Chapter 2—Wiring and Protection</b>		
210.25 (B) Common Area Branch Circuits <i>Exception</i>	This new exception allows branch circuits that light common areas using less than 50 watts in residential developments can be supplied by equipment that serves one of the dwelling units.	This is a new exception for unit lot subdivision projects with small common areas (example: refuse area that needs lighting). Today, if someone wants to light a common area the electrical section must say “no” and would require the addition of an extra house panel. The language for the exception originates from SDCI staff. The addition of an exception solves a problem generated by Seattle’s approach to unit lot subdivision projects. It allows a developer to install a minimal amount of lighting for the convenience of the residents without having to organize a formal homeowner’s association.
210.52	Added new WAC language about receptacles in peninsular countertop space. It allows a receptacle in the wall to be utilized both for the wall and the peninsula.	This makes requirements for peninsulas consistent between the State of Washington and the City of Seattle.
210.71	This is amendment allow provides additional means to meet a new NEC requirement to provide receptacle outlets in conference rooms.	A new requirement was added to the 2017 NEC requiring more floor receptacle outlets in conference rooms to support user’s electronic devices. A goal of the electrical code is to reduce the need for extension cords. The purpose is to reduce tripping and shock hazards. The Seattle amendment allows the new receptacles to be placed <b>on</b> the floor rather than require concrete drilling or cutting to install them in the floor. This change allows many more products and installation methods to be used which should increase the electrician’s ability to find an economical product.

Section	Description of Change	Explanation
220.57	<p>This Seattle amendment has been rewritten to clarify that Table 220.57 is to be used to meet the requirement to calculate <b>future</b> demand for Level 2 and Level 3 Electric Vehicle charging systems in all buildings except for one- and two-family dwellings.</p> <p>The minimum amperage requirement of charging outlets has been reduced from 40 to 20 amps for Level 2 systems.</p>	<p>The purpose of calculating the demand loads for Level 2 and 3 electric vehicle charging stations is to ensure capacity for <b>future</b> station installations. <b>It is not to be used to determine what is required for an actual system that is being installed today.</b></p> <p>Adequate space must be reserved for the electrical equipment, branch runs, and feeder sizing as well as any other infrastructure needed to provide electric vehicle charging.</p> <p>The rating amperage requirement is reduced from 40 to 20 amps if the size or rating of the Level 2 system is unknown. Several companies offer Level 2 charging systems at the 20 amp level that appear to be minimally adequate.</p>
230.2 Number of Services. (B) Special Occupancies (4)	Electrical vehicle charging is added to the list of items where the installation of an additional service is allowed.	The electrical code generally allows one electrical service to one per building. In rare cases an additional service may be allowed. An additional service is allowed for electric vehicle charging systems.
230.28 Service Masts as Supports	(5) has been changed to clarify that masts should be rigidly supported with brackets at 26 inches. Some wordsmithing has been done that doesn't affect meaning of the section.	Adding this language ensures that masts that are offset around gutters and ridges using u-bends and other methods are adequately supported with guy wires.
230.30 Installation (B) Wiring Methods	Removed the strike out of "Type HDPE conduit" from a list of wiring methods that are approved for underground service conductors.	During the last code adoption, our electrical staff was not familiar with the use of polyethylene conduit in electrical installations. The conduit is now utilized in many different underground applications and is resistant aggressive chemicals such as road salts, motor oils, and fuels; withstands freeze-thaw cycles and continuous subzero temperatures without cracking, is highly abrasion-resistant and is unaffected by extremes in ph. We are now comfortable approving it for use Seattle.
230.43 Wiring Methods for 1000 Volts, Nominal, or Less	The strike out of "Type HDPE conduit" has been removed from a list of wiring methods allowed for service entrance conductors that are 1000 Volts or less.	See explanation above.

Section	Description of Change	Explanation
240.24 (A) Location in or on Premises.  Accessibility	This establishes the minimum allowed height, 24 inches, of an overcurrent device installed on the exterior of the building.  There is also an exception (5) for enclosures that are approved for pad- or floor mounting.	This change ensures easy access for electricians who are working on overcurrent devices. The closer they are to the ground, the more difficult they are to service. This minimum clearance makes it easy to pull the switch in the event of an emergency and to repair the device.
240.24 (G) Locations	This establishes a minimum height of 12 inches for installation of overcurrent devices in interior installations.	The height for placement of the overcurrent device was originally proposed at 24 inches, but the committee felt that wall space on <b>interior installations</b> was at a premium and if the contractor lost the area between the 1 <sup>st</sup> foot and 2 <sup>nd</sup> foot of an interior wall for potential placement of the device, they might have trouble securing other wall space from the general contractor in order to locate it. The WAC puts the height for interior installations at 24 inches.
250.64 Grounding Electrode Conductor Installation	This is a new amendment that is being incorporated from the WAC into the 2017 Seattle Electrical Code. Clarifies where a grounding electrode conductor can be installed so as not to be considered exposed to physical danger.	This requirement is proposed to align the City's language with the language found in the WAC. Burying grounding electrode conductors 12" deep will protect it from damage and theft.
<b>Chapter 3—Wiring and Protection</b>		
334.25 Out of service and abandoned conductors (non-metallic sheathed cable)	This new Seattle amendment clarifies that out-of-service wiring must be removed unless it is properly tagged and terminated.	Abandoned wiring can create an unnecessary fire loading and in some cases structural loading. In addition, all wiring needs to be accounted for to ensure that none of it unknowingly being energized. This amendment requires that it be removed or at a minimum safely terminated and tagged to ensure no live wires remain in operation.
338.25 Out of service and abandoned conductors (service entrance cables)	This is a new Seattle amendment that is being added to clarify that out-of-service wiring that is not being used must be removed unless it is properly tagged and terminated.	Wiring poses hazards and must be removed or at a minimum safely terminated and tagged to ensure no live wires remain in operation. Abandoned wiring can create an unnecessary fire and structural loading.
394.1 Scope (knob and tube wiring)	This clarifies that all <b>energized</b> knob and tube wiring that has been abandoned or serves no purpose and must be removed or terminated properly.	Energized abandoned knob and tube wiring should be removed or properly tagged and terminated as soon as possible. Most original knob and tube wiring lacks capacity for today's normal level of power use within

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		buildings. Homeowners sometimes replace fuses in these systems with higher rated ones to supply today's increase loads which can prove overwhelming to the original wiring creating a fire hazard. In addition, Knob and tube wiring deteriorates over time because its insulation can become brittle and rodents sometimes eat the insulation.
394.25 Out of Service and Abandoned Conductors.  (knob and tube wiring)	New Seattle amendment. Where the wiring is accessible, all out-of-service knob and tube cable and abandoned conductors that <b>aren't energized</b> must be removed or tagged and properly terminated.	See above. Out-of-service knob and tube wiring should preferably be removed or if this isn't possible properly tagged and terminated.
<b>Chapter 4—Equipment for General Use</b>		
No amendments	No amendments	No amendments
<b>Chapter 5—Special Occupancies</b>		
517.31(G) Coordination (Requirements for Essential Healthcare System)	Exception #3 from the 2014 SEC 517.30 requiring stamped calculations from the electrical engineer supporting selective coordination of supply-side over current protection devices has been moved and incorporated into the second paragraph of the Seattle amendment of 517.31 (G).	The sections related to the essential electrical systems for healthcare facilities have been rewritten and renumbered in the 2017 NEC. The Seattle amendments relating to coordination are now in 517.31 (G).
555.25 Luminaires Required	Removed a sentence saying that all luminaires must be listed for their purpose.	The code makes it clear in other sections that all components need to be listed for their use. It is not necessary here.
<b>Chapter 6—Special Equipment</b>		
600.1 Scope (3)	Added LEDs to list of items covered by Article 600.	The increase in LED sign lighting necessitates adding LED Luminaires to this section to ensure that they are safely installed.
600.1 Scope (Electric Signs and Outline Lighting)	Informational Note No. 3 has been added to clarify when inspections for retrofits of signs should be requested.	This note will help the applicant coordinate with inspectors to get a quick inspection for sign retrofits.
600.1 Scope (5) Retrofitting Signs	This section was corrected to match WAC 296-46B-600(5) and current inspection practices.	Changed from "verified" individuals to "certified" individuals.
600.1 Scope Informational Note No. 3	New informational Note No. 3 was added instructing permit applicants to provide 24-hour notice for retrofit inspections.	Informational Note No. The inspector provides the on-site inspection but needs the contractor to be there to provide access. The contractor sometimes needs to work with the property owner to gain access. This clarifies how much notice SDCI needs for an inspection request for retrofits and aligns with City of Seattle practice.

Section	Description of Change	Explanation
600.2 Definitions	Moved a definition for Overhead Electrical Conductors out of another location into the definition section. An informational note was moved that points to Chapter 31 of the Seattle Building Code.	<p>It isn't good form to have a definition located in an informational note, so the informational note containing the definition of Overhead Electrical Conductor originally found in 600.9 has been relocated to 600.2.</p> <p>The remaining wording eliminates the phrase "iron pipe or other material covering of equal strength" from the end of the definition and substitutes "in an approved raceway or enclosure". This aligns with terminology utilized in the Seattle Building Code in Chapter 30.</p>
600.9 Location (Electric signs and outline lighting)	Replaced the standard rating of 750 volts used to describe power lines with 1000 volts. This is used to help determine the location of sign and outline lighting.	<p>The 750 volts originated with the Seattle Building Code. The update to 1000 volts with industry standards and newer language in the NEC.</p> <p>The title of (E) and other text has been changed to align with language in the building code (See SBC 3107.9.2).</p> <p>The old Informational note that defined "overhead conductors" has been moved to 600.2 Definitions (see above)</p>
620.1 Scope (Elevators, Dumbwaiters, Escalators, Moving Walks, Platform Lifts, and Stairway Chairlifts)	Updated informational Note #2 reference to ASME A17.5-2011 to 2014 edition.	<p>The SDCl elevator team recommends keeping the 2011 version of the Safety Standard for Platform Lifts and Stairway Chairlifts for now because ASMEA 118.1-2014 was not adopted in the last elevator code adoption. There are few changes in the newer version and the reference will be updated when the elevator code is reviewed again in the next 2-3 years. They don't want to set up a situation where they have conflicting references.</p> <p>Informational Note No. 4 was eliminated. The committee felt that the reference to the building code wasn't very helpful.</p>
620.21 Wiring Methods. (2) (a)-(c) Cars	Replaced "placed in locations where it can be walked on or damaged" in Seattle amendment to "where it would be subject to physical damage."	Simple wordsmithing.

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	Minor changes to top-of-car language (see underlined "portable" language).	
620.24 Panel Boards (exception)	Requirements to have branch circuits for pit lighting and disconnecting means located in the panel board for the elevator machine room have been removed. A new exception was added that allows the branch circuit for elevator pit lighting to be located outside of the panel in the elevator machine room.	This section has been requested by the SDCI Elevator inspection team. References to 620.4 and 620.51 have been removed. While not required, a branch circuit for pit lighting and receptacle can be placed in the elevator machine room or control room. The exception allows the branch circuit for pit lighting to be placed in a more convenient location than the elevator machine room.
620.27 Prohibited Equipment in Elevator Machine Room or Control Room	New Seattle Amendment. This new section prohibits the location of most line-side electrical equipment in elevator machine or control rooms and lists exceptions. An exception is allowed for small transformers (30 kva or less) that supply the elevator or machine/control room loads.	Generally, space in elevator machine/control rooms for electrical equipment should be limited. This is to conserve space and limit heat gain in the room, but also to limit the need for access to those who service and maintain elevators. An exception allows a smaller transformer supplying loads in the elevator machine/control room. This size of transformer is limited and should keep the temperature within the space reasonable. Other exceptions must be approved by the Electrical Code Official
620.51 Disconnecting Means.	Exception No. 2 adds an exception allowing plugged in stairway chairlifts in dwelling units.  A new Seattle amendment, Section (G) Prohibited Equipment in Elevator Machine Rooms, clarifies that electrical equipment on the line side of the disconnecting means is prohibited from the elevator machine room or control room. Small transformers (30 kva or less) that supply the elevator machine or control room are an exception.	Changes in Exception No. 2 seek to establish an exception for a <u>dwelling unit</u> containing a stairway chairlift to be able to "plug it in" as long as the cord does not exceed 6 feet in length. This exception aligns with the WAC.  A new Seattle amendment, section (G) <u>Prohibited Equipment in Elevator Machine room or Control Room</u> has been added. It is identical to language found in 620.27.
625.27 Requirements for Future Installation of Charging Outlets	This section has been rewritten to clarify the requirement to set aside reserved space and capacity for future electric vehicle charging outlets. These	Planning must be done up front to ensure that space has been set aside in current projects for future EV charging stations. Space to locate future panelboards, space in the electrical service equipment itself, and

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	<p>requirements apply to all occupancies except one- and two- family dwellings.</p> <p>Additional details explain what SDCI will be accept from applicants to demonstrate that adequate space and capacity have been set aside for electrical vehicle charging systems.</p> <p>Permanent placards alerting building users to that portions of the building have been reserved for future electric vehicle charging stations are to be posted.</p> <p>Applicants must show conduit pathway on the electrical drawings.</p>	<p>space in the electrical service room for an electrical vehicle service disconnect needs to be set aside for future EV charging in the planning stage of a new building. Adjacent physical space must also be marked and set aside for conduit.</p> <p>This change requires building owners to create the space needed for future loads and infrastructure that will come as EV become more prevalent. <b>This section does not apply to current installations of EV.</b></p>
680.4 Approval of Equipment  (Swimming Pools, Fountains, and Similar Installations)	Removed a Seattle amendment requiring equipment associated with swimming pools, fountains and similar installations to be listed.	A 2014 Seattle Electrical Code amendment required listing of a long list of equipment associated with swimming pools, fountains and similar installations. The 2017 NEC was amended to require all equipment and products associated with these installations to be listed, therefore there is no need to keep the list or equipment.
690.1 Scope (Solar Photovoltaic systems)	Added informational note (2) to clarify that Article 691 covers the installation of large-scale PV electric supply stations.	This provides a pointer for readers to find the requirements for the installation of large-scale PV electric supply stations.
<b>Chapter 7—Emergency Systems</b>		
705.12 Point of Connection  (Interconnected Electric Power Production Sources)	1) and 2) were added to (A) Supply Side to reinstate language from the 2014 NEC that was deleted in the 2017 NEC. The 2017 NEC no longer specifies what wiring methods to use to protect the output conductors of an electric power production source from physical damage when those conductors are connected to the supply side of a service disconnecting means. The Seattle amendments A and B take care of this issue.	In the 2017 NEC, section 705.12 was rearranged and, in the process, old paragraphs (C) and (D) were deleted. The addition of <b>(1) and (2) to (A) Supply Side</b> to 705.12 restores this language. The reference to 230.43 indicates that the wiring required is similar to an electrical service installation. Solar power systems are one type of interconnected electric power production sources.