

2023 Seattle Electrical Code (Proposed Amendments)

Source: Seattle (S) Or (W) Washington	Article	Section Title	Current 2020 SEC language	Proposed Seattle changes (2023 NEC base language overlaid with proposed 2023 Seattle changes or 2023 Washington State changes)	Why do you want to make this change?
		What's New?	<p>Every three years, the Seattle City Council approves changes to the requirements of the <i>National Electrical Code</i> (NEC) needed to adapt the code for use in Seattle. The NEC, with local changes, make up the <i>Seattle Electrical Code</i> (SEC). These local changes are generally carried forward into the next SEC edition. Many changes correct editorial and grammatical mistakes or bring clarity to existing code language. However, Seattle does adopt amendments every three years to respond to unique Seattle concerns. The following are highlights of changes made by Seattle during the adoption of the 2020 Seattle Electrical Code:</p> <p>Electric Vehicle Charging Infrastructure</p> <p>Articles 220.57 and 625.27 are modified to align EV charging infrastructure requirements with the Land Use Code.</p> <p>Calculated Electric Load</p> <p>Article 220.84 is modified to prevent calculated excess service capacity when using advanced heat pump systems.</p> <p>Construction Documents</p> <p>Article 80.51(B) increases sizes of services and systems before the submittal of construction documents is required.</p> <ul style="list-style-type: none"> • The requirement triggering the need to submit construction documents for temporary services increased from 400 to 600 amperes. Temporary services under 600 amps can be processed using the over the counter process. • It is clarified that permanent services or feeders of 400 amperes 	<p>Every three years, the Seattle City Council approves changes to the requirements of the <i>National Electrical Code</i> (NEC) needed to adapt the code for use in Seattle. The NEC, with local changes, make up the <i>Seattle Electrical Code</i> (SEC). These local changes are generally carried forward into the next SEC edition. Many changes correct editorial and grammatical mistakes or bring clarity to existing code language. However, Seattle does adopt amendments every three years to respond to unique Seattle concerns. The following are highlights of changes made by Seattle during the adoption of the 2023 Seattle Electrical Code:</p> <p>ESS (Energy Storage Systems)</p> <p>New installations of Energy Storage Systems will require a plan review will require plan review. 80.51(B)(1)(k)</p> <p>Multiple OTC permits</p> <p>Three or more OTC permits in a single building which may impact a feeder, service, or Fire Alarm system. 80.51(B)(1)(j)</p> <p>PV installations</p> <p>PV equipment will require a Cover inspection before completing the installation. 80.54(F)(1)(d)</p> <p>Smoke Control Fans</p> <p>Identify smoke control fans on the one-line. 80.51(B)(4)(9)</p>	

			<p>or over require the submittal of construction plans.</p> <ul style="list-style-type: none"> The requirement triggering the need to submit construction plans for photovoltaic and other renewable energy systems is increased from 12 kW. A one line drawing and manufacturer's installation requirements to the field inspector prior to the first cover inspection is required for systems rated 12kW and under. 		
S			<p>Page vi</p> <p>Electrical Code Review and Inspection Program</p> <p>What do we do? Our mission is to safeguard people and property from the hazards of electricity used in buildings and structures. Our inspectors review and inspect new electrical equipment and wiring installations for compliance with the requirements of the 2020 Seattle Electrical Code. They also check licenses, respond to complaints, and investigate accidents.</p> <p>What kind of permit do I need? You can apply online for any electrical permit, but some require you to submit construction documents and a formal plan review is conducted on your project; other permits do not.</p> <ul style="list-style-type: none"> For more information about different electrical permit types please see the link below: https://seattlegov.zendesk.com/hc/en-us/articles/115004979048-Which-Electrical-Permit-Should-I-Choose See the link below for 2020 Seattle Electrical Code, Article 80, Sections 80.50 and 80.51 application and permit requirements: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/electrical-code Many residential and low-voltage electrical permits are issued quickly as OTC (over the counter) permits. To determine if you can use our OTC service see this link below: https://www.seattle.gov/Documents/Departments/SDCI/Permits/RequirementsLowVoltageWiringSystems.pdf <p>How do I get an electrical permit? The steps you need to take to get your permit can be found in the link</p>	<p>Page vi</p> <p>Electrical Code Review and Inspection Program</p> <p>What do we do? Our mission is to safeguard people and property from the hazards of electricity used in buildings and structures. Our inspectors review and inspect new electrical equipment and wiring installations for compliance with the requirements of the 2020 Seattle Electrical Code. They also check licenses, respond to complaints, and investigate accidents.</p> <p>What kind of permit do I need? You can apply online for any electrical permit, but some require you to submit construction documents and a formal plan review is conducted on your project; other permits do not.</p> <ul style="list-style-type: none"> For more information about different electrical permit types please see the link below: https://seattlegov.zendesk.com/hc/en-us/articles/115004979048-Which-Electrical-Permit-Should-I-Choose See the link below for 2020 Seattle Electrical Code, Article 80, Sections 80.50 and 80.51 application and permit requirements: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/electrical-code Many residential and low-voltage electrical permits are issued quickly as OTC (over the counter) permits. To determine if you can use our OTC service see this link below: https://www.seattle.gov/Documents/Departments/SDCI/Permits/RequirementsLowVoltageWiringSystems.pdf <p>How do I get an electrical permit? The steps you need to take to get your permit can be found in the</p>	<p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>Eliminating redundant language at</p> <p>4/24/2024 Committee: Change “Who do I call with permit questions?” to “...contact...”: https://www.seattle.gov/sdci/ab-out-us/contact-us</p>

		<p>below: http://www.seattle.gov/sdci/permits/permits-we-issue-(a-z)/electrical-permit#1.research You can apply for your electrical permit using the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx</p> <p>Note: As of the March 15, 2021, effective date of this code, our applicant services center (ASC) is closed to in-person visits until further notice because of COVID 19 restrictions. Please access the Seattle Service Portal link above or call the ASC at (206) 684-8850.</p> <p>Who do I call with permit questions? Call us at (206) 684-8464. Can I schedule my inspection online? Yes, you can through the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx For more information, please see: https://seattlegov.zendesk.com/hc/en-us/articles/115004984887-How-to-Schedule-an-Inspection-or-Appointment</p>	<p>link below: http://www.seattle.gov/sdci/permits/permits-we-issue-(a-z)/electrical-permit#1.research You can apply for your electrical permit using the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx</p> <p>Note: As of the March 15, 2021 effective date of this code, Our applicant services center (ASC) is now virtual. closed to in person visits until further notice because of COVID-19 restrictions. Please access the Seattle Service Portal link above or call the ASC at (206) 684-8850.</p> <p>Who do I call with permit questions? Call us at (206) 684-8464.</p> <p>Questions for us? Please click on the link below: https://www.seattle.gov/sdci/about-us/contact-us</p> <p>Can I schedule my inspection online? Yes, you can through the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx For more information, please see: https://seattlegov.zendesk.com/hc/en-us/articles/115004984887-How-to-Schedule-an-Inspection-or-Appointment</p>	
		<p>Page vii</p> <p>Who do I call for an inspection? Call our 24-hour inspection request line at (206) 684-8900 (for electrical sign inspection questions call (206) 684-8419). You can also schedule online through the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx For inspection scheduling questions, please call (206) 684-8950 Mon – Fri: 7:30 a.m. – 4:00 p.m. Where can I find information about the Electrical Code? For electrical code questions and other technical support, please call (206) 684-5383 or go to https://www.seattle.gov/sdci/about-us/contact-us . Electrical Code information: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/electrical-code Sign Code information: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/sign-code Who is my inspector and when are they on duty? To view who your inspector is, put in your permit number at the Seattle Services Portal and go to the inspections tab to see who is assigned to your inspection for that day. Your project may also qualify as a virtual inspection. Note: Inspections normally occur daily between 7 a.m. and 4 p.m. Inspectors work a flexible (9- 80) schedule with 9-</p>	<p>Who do I call for an inspection? Call our 24-hour inspection request line at (206) 684-8900 (for electrical sign inspection questions call (206) 684-8419). You can also schedule online through the Seattle Services Portal link below: https://cosaccela.seattle.gov/Portal/welcome.aspx For inspection scheduling questions, please call (206) 684-8950 Mon – Fri: 7:30 a.m. – 4:00 p.m. Where can I find information about the Electrical Code? For electrical code questions and other technical support, please call (206) 684-5383 or go to https://www.seattle.gov/sdci/about-us/contact-us . Electrical Code information: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/electrical-code Sign Code information: http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/sign-code Who is my inspector and when are they on duty? To view who your inspector is, put in your permit number at the Seattle Services Portal and go to the inspections tab to see who is assigned to your inspection for that day. Your project may also qualify as a virtual inspection.</p>	<p>5/1/2024 Committee: Eliminate “Your project may also qualify as a virtual inspection.”</p>

			hour days and usually have a Friday or Monday off on alternate weeks. Every attempt is made to shift work to other inspectors. However, the volume of inspection requests may not allow us to schedule an inspection on the day you request it. Our inspectors work in districts. If you need to contact an inspector about a project or issue in a particular part of the City, you can access the link below that shows the inspector assigned to each Seattle inspection district: http://www.seattle.gov/Documents/Departments/SDCI/Permits/ElectricalInspectionDistricts.pdf	Note: Inspections normally occur daily between 7 a.m. and 4 p.m. Inspectors work a flexible (9-80) schedule with 9-hour days and usually have a Friday or Monday off on alternate weeks. Every attempt is made to shift work to other inspectors. However, the volume of inspection requests may not allow us to schedule an inspection on the day you request it. Our inspectors work in districts. If you need to contact an inspector about a project or issue in a particular part of the City, you can access the link below that shows the inspector assigned to each Seattle inspection district: http://www.seattle.gov/Documents/Departments/SDCI/Permits/ElectricalInspectionDistricts.pdf	
Article 80 Administration					
S			Informational note: Article 80 is comprised entirely of amendments made by The City of Seattle to the National Electrical Code (NEC). It aligns the administration and enforcement of this Code with administrative chapters found in other construction codes adopted by The City of Seattle.	Informational note: Article 80 is comprised entirely of amendments made by The City of Seattle to the National Electrical Code (NEC). It aligns the administration and enforcement of this Code with administrative chapters found in other construction codes adopted by The City of Seattle.	No changes. Carry forward 2020 SEC language into 2023 SEC.
S	80.1	Title, Purpose and Scope	80.1 Title. These regulations shall be known as the “ <i>Seattle Electrical Code</i> ,” may be cited as such, and are referred to herein as “this Code.” All references to the <i>National Electrical Code</i> contained in this Code mean the <i>Seattle Electrical Code</i> . (A) Referenced Codes. The code provisions and standards referenced in this <i>Code</i> are considered part of this <i>Code</i> to the extent prescribed by each such reference. Where differences occur between provisions of this <i>Code</i> and referenced codes and standards, the provisions of this <i>Code</i> govern. (B) Metric Units. Whenever in this <i>Code</i> there is a conflict between metric units of measurement and U.S. customary units, the U.S. customary units govern.	80.1 Title. These regulations shall be known as the “ <i>Seattle Electrical Code</i> ,” may be cited as such, and are referred to herein as “this Code.” All references to the <i>National Electrical Code</i> contained in this Code mean the <i>Seattle Electrical Code</i> . (A) Referenced Codes. The code provisions and standards referenced in this <i>Code</i> are considered part of this <i>Code</i> to the extent prescribed by each such reference. Where differences occur between provisions of this <i>Code</i> and referenced codes and standards, the provisions of this <i>Code</i> govern. (B) Metric Units. Whenever in this <i>Code</i> there is a conflict between metric units of measurement and U.S. customary units, the U.S. customary units govern.	No changes. Carry forward 2020 SEC language into 2023 SEC. 5/9/2024 Internal Committee: No changes, carry forward
S	80.2	Purpose	(A) Protection from Hazards. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, or equipment or systems utilizing electricity within the City. This <i>Code</i> is intended to provide for and promote the health, safety, and welfare of the general public, and 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 <i>Code</i> .	(A) Protection from Hazards. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, or equipment or systems utilizing electricity within the City. This <i>Code</i> is intended to provide for and promote the health, safety, and welfare of the general public, and 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 <i>Code</i> .	No changes. Carry forward 2020 SEC language into 2023 SEC. 5/9/2024 Internal Committee: No changes, carry forward

			<p>This <i>Code</i> is not intended as a design specification nor an instruction manual for untrained persons.</p> <p>(B) Chapter 296-46B Washington Administrative Code. An additional purpose of this <i>Code</i> is to provide equal, higher or better standards of construction and equal, higher or better standards of materials, devices, appliances, and equipment than those required by the State of Washington under the provisions of Revised Code of Washington (RCW) Chapter 19.28. Only those sections of the Washington State Electrical Code adopted in 2020 amending the 2020 <i>National Electric Code</i>, as set forth at Chapter 296-46B of the Washington Administrative Code (hereinafter WAC) and specifically incorporated in this <i>Code</i> are adopted. Informational Notes providing the WAC rule number, as the source of the Seattle amendment, are informational only.</p>	<p>This <i>Code</i> is not intended as a design specification nor an instruction manual for untrained persons.</p> <p>(B) Chapter 296-46B Washington Administrative Code. An additional purpose of this <i>Code</i> is to provide equal, higher or better standards of construction and equal, higher or better standards of materials, devices, appliances, and equipment than those required by the State of Washington under the provisions of Revised Code of Washington (RCW) Chapter 19.28. Only those sections of the Washington State Electrical Code adopted in 2020 amending the 2020 <i>National Electric Code</i>, as set forth at Chapter 296-46B of the Washington Administrative Code (hereinafter WAC) and specifically incorporated in this <i>Code</i> are adopted. Informational Notes providing the WAC rule number, as the source of the Seattle amendment, are informational only.</p>	
S	80.3	Scope	<p>Scope. This Code applies to the installation, <i>alteration</i>, repair, relocation, replacement, addition to, use, or maintenance of electrical wiring, systems, and equipment, including communications systems and traffic management systems, within the City. The design and testing of <i>equipment</i> regulated by this Code are subject to the approval of the authority having jurisdiction.</p> <p>(A) Traffic Management Systems. Traffic management systems provide signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock. 2020 WAC 296-46B-010(16) through (23) are adopted as follows:</p> <p>Traffic Management Systems.</p> <p>(16) The department or city authorized to do electrical inspections will perform the electrical inspection and acceptance of traffic management systems within its jurisdiction. A traffic management system includes:</p> <ul style="list-style-type: none"> (a) Traffic illumination systems; (b) Traffic signal systems; (c) Traffic monitoring systems; (d) The electrical service cabinet and all related components and equipment installed on the load side of the service cabinet supplying electrical power to the traffic management system; and (e) Signalization system(s) necessary for the operation of a light rail system. <p>A traffic management system can provide signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock.</p> <p>(17) The department or city authorized to do electrical inspections recognizes that traffic signal conductors, pole and bracket cables, signal displays, traffic signal controllers/cabinets and associated components used in traffic management systems are acceptable for the purpose of meeting the requirements of chapter 19.28 RCW provided they conform with the following standards or are</p>	<p>Scope. This Code applies to the installation, <i>alteration</i>, repair, relocation, replacement, addition to, use, or maintenance of electrical wiring, systems, and equipment, including communications systems and traffic management systems, within the City. The design and testing of <i>equipment</i> regulated by this Code are subject to the approval of the authority having jurisdiction.</p> <p>(A) Traffic Management Systems. Traffic management systems provide signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock. 2020 WAC 296-46B-010(16) through (23) are adopted as follows:</p> <p>Traffic Management Systems.</p> <p>(16) The department or city authorized to do electrical inspections will perform the electrical inspection and acceptance of traffic management systems within its jurisdiction. A traffic management system includes:</p> <ul style="list-style-type: none"> (a) Traffic illumination systems; (b) Traffic signal systems; (c) Traffic monitoring systems; (d) The electrical service cabinet and all related components and equipment installed on the load side of the service cabinet supplying electrical power to the traffic management system; and (e) Signalization system(s) necessary for the operation of a light rail system. <p>A traffic management system can provide signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock.</p> <p>(17) The department or city authorized to do electrical inspections recognizes that traffic signal conductors, pole and bracket cables, signal displays, traffic signal controllers/cabinets and associated</p>	<p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Internal Committee: No changes, carry forward</p>

		<p>listed on the Washington state department of transportation (WSDOT) qualified products list.</p> <ul style="list-style-type: none"> (a) WSDOT/APWA standard specifications and plans; (b) WSDOT Design Manual; (c) International Municipal Signal Association (IMSA); (d) National Electrical Manufacturer’s Association (NEMA); (e) Federal Standards 170/Controller Cabinets; (f) Manual for Uniform Road, Bridge, and Municipal Construction; (g) Institute of Transportation Engineers (ITE); or (h) Manual of Uniform Traffic Control Devices (MUTCD). <p>(18) Associated induction detection loop or similar circuits will be accepted by the department or city authorized to do electrical inspections without inspection.</p> <p>(19) For the licensing requirements of chapter 19.28 RCW, jurisdictions will be considered owners of traffic management systems when doing electrical work for another jurisdiction(s) under a valid interlocal agreement, as permitted by chapter 39.34 RCW. Interlocal agreements for traffic management systems must be filed with the department or city authorized to do electrical inspections prior to work being performed for this provision to apply.</p> <p>(20) Jurisdictions, with an established electrical inspection authority, and WSDOT may perform electrical inspection on their rights of way for each other by interlocal agreement. They may not perform electrical inspection on other rights of way except as allowed in chapter 19.28 or 39.34 RCW.</p> <p>(21) Underground installations.</p> <ul style="list-style-type: none"> (a) In other than open trenching, raceways will be considered “fished” according to the NEC and do not require visual inspection. (b) The department or city authorized to do electrical inspections will conduct inspections in open trenching within its jurisdiction. The electrical work permit purchaser must coordinate the electrical inspection. A written request (e.g., letter, email, fax, etc.) for inspection, made to the department or city authorized to do electrical inspections office having the responsibility to perform the inspection, must be made a minimum of two working days prior to the day inspection is needed (e.g., two working days 10:00 a.m. Tuesday request for a 10:00 a.m. Thursday inspection, excluding holidays and weekends). <p>If, after proper written request, the department or city authorized to do electrical inspections fails to make an electrical inspection at the time requested, underground conduit may be covered after inspection by the local government jurisdiction’s project inspector/designee. Written documentation of a local government jurisdiction</p>	<p>components used in traffic management systems are acceptable for the purpose of meeting the requirements of chapter 19.28 RCW provided they conform with the following standards or are listed on the Washington state department of transportation (WSDOT) qualified products list.</p> <ul style="list-style-type: none"> (a) WSDOT/APWA standard specifications and plans; (b) WSDOT Design Manual; (c) International Municipal Signal Association (IMSA); (d) National Electrical Manufacturer’s Association (NEMA); (e) Federal Standards 170/Controller Cabinets; (f) Manual for Uniform Road, Bridge, and Municipal Construction; (g) Institute of Transportation Engineers (ITE); or (h) Manual of Uniform Traffic Control Devices (MUTCD). <p>(18) Associated induction detection loop or similar circuits will be accepted by the department or city authorized to do electrical inspections without inspection.</p> <p>(19) For the licensing requirements of chapter 19.28 RCW, jurisdictions will be considered owners of traffic management systems when doing electrical work for another jurisdiction(s) under a valid interlocal agreement, as permitted by chapter 39.34 RCW. Interlocal agreements for traffic management systems must be filed with the department or city authorized to do electrical inspections prior to work being performed for this provision to apply.</p> <p>(20) Jurisdictions, with an established electrical inspection authority, and WSDOT may perform electrical inspection on their rights of way for each other by interlocal agreement. They may not perform electrical inspection on other rights of way except as allowed in chapter 19.28 or 39.34 RCW.</p> <p>(21) Underground installations.</p> <ul style="list-style-type: none"> (c) In other than open trenching, raceways will be considered “fished” according to the NEC and do not require visual inspection. (d) The department or city authorized to do electrical inspections will conduct inspections in open trenching within its jurisdiction. The electrical work permit purchaser must coordinate the electrical inspection. A written request (e.g., letter, email, fax, etc.) for inspection, made to the department or city authorized to do electrical inspections office having the responsibility to perform the inspection, must be made a minimum of two working days prior to the day inspection is 	
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			<p>public utilities, railway rolling stock, aircraft or automotive vehicles.</p> <p>(2) Installations of railways or generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communication purposes.</p> <p>(3) Installations of communication equipment under exclusive control of communication utilities, located outdoors or in building spaces used exclusively for such installations.</p> <p>(4) Installations under the exclusive control of electric utilities for the purpose of communication, metering, or for the generation, control, transformation, transmission, and distribution of electric energy located in buildings used for such purposes or leased by the utility or on public highways, streets, roads, or other public ways, or outdoors on established rights on private property up to the service point as defined in this Code. The installation and maintenance of all utility owned conductors up to the service point, as defined by this Code, shall be the responsibility of the serving utility.</p> <p>(5) Installations underground in mines and self-propelled mobile surface mining machinery and its attendant electrical trailing cable.</p> <p>(D) Vesting of electrical permit applications. An electrical permit application shall be considered under the Seattle Electrical code in effect on a date vesting occurs pursuant to as provided below, or on a date as otherwise required by law.</p> <p>(1) Electrical permit applications shall be considered under the Seattle Electrical Code in effect on the date vesting occurs pursuant to Seattle Building Code Section 101.3 if any of Items a. through c. apply:</p> <p>a. The electrical permit application is for work directly associated with a building permit and is submitted separately from the building permit application; or</p> <p>b. The electrical permit application is for initial tenant alterations and is submitted no later than 18 months after the date of the approved final inspection for the building, and is submitted before the expiration date of the building permit for the Tenant alteration, as determined by Seattle Building Code Section 106.9; or</p> <p>c. Electrical permit applications other than those subject to Item 1 shall be considered under the codes in effect on the date a complete electrical permit application is submitted that complies with all the requirements of Section 80.51.</p>	<p>systems must be filed with the department or city authorized to do electrical inspections prior to work being performed.</p> <p>(2) The City of Seattle, as the authority having jurisdiction to perform electrical inspections, and WSDOT may perform electrical inspections for each other on their rights-of-way by interlocal agreement. They may not perform electrical inspection on other rights-of-way except as allowed in RCW chapters 19.28 or 39.34.</p> <p>(C) Not Covered. This Code does not cover the following:</p> <p>(1) Installations in ships and watercraft not connected to public utilities, railway rolling stock, aircraft or automotive vehicles.</p> <p>(2) Installations of railways or generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communication purposes.</p> <p>(3) Installations of communication equipment under exclusive control of communication utilities, located outdoors or in building spaces used exclusively for such installations.</p> <p>(4) Installations under the exclusive control of electric utilities for the purpose of communication, metering, or for the generation, control, transformation, transmission, and distribution of electric energy located in buildings used for such purposes or leased by the utility or on public highways, streets, roads, or other public ways, or outdoors on established rights on private property up to the service point as defined in this Code. The installation and maintenance of all utility owned conductors up to the service point, as defined by this Code, shall be the responsibility of the serving utility.</p> <p>(5) Installations underground in mines and self-propelled mobile surface mining machinery and its attendant electrical trailing cable.</p> <p>(D) Vesting of electrical permit applications. An electrical permit application shall be considered under the Seattle Electrical code in effect on a date vesting occurs pursuant to as provided below, or on a date as otherwise required by law.</p> <p>(1) Electrical permit applications shall be considered under the Seattle Electrical Code in effect on the date vesting occurs pursuant to Seattle Building Code Section 101.3 if any of Items a. through c. apply:</p> <p>a. The electrical permit application is for work directly associated with a building permit and is submitted separately from the building permit application; or</p>	
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				<p>b. The electrical permit application is for initial tenant alterations and is submitted no later than 18 months after the date of the approved final inspection for the building, and is submitted before the expiration date of the building permit for the Tenant alteration, as determined by Seattle Building Code Section 106.9; or</p> <p>c. Electrical permit applications other than those subject to Item 1 shall be considered under the codes in effect on the date a complete electrical permit application is submitted that complies with all the requirements of Section 80.51.</p>	
S	80.4	Application to Existing Electrical Systems.	<p>(A) Additions, Alterations, Renovations, or Repairs. Additions, <i>alterations</i>, renovations, or repairs may be made to any electrical system without requiring the existing electrical system to comply with the requirements of this Code, if the addition, <i>alteration</i>, renovation, or repair conforms to the standards required for a new electrical system. Additions, <i>alterations</i>, renovations, or repairs shall not cause an existing system to become <i>unsafe</i>, unhealthy, or overloaded. This section does not limit the effect of applicable retroactive ordinances.</p> <p><i>Exception: Subject to the approval of the authority having jurisdiction, repairs may be made with the same materials of which the building or structure is constructed, other than for the replacement of receptacles as provided in NEC Section 406.3(D), provided the repair complies with the electrical code in effect at the time of original installation and provided further that no change shall be permitted which increases its hazard.</i></p> <p>(B) Existing Electrical Installations. Electrical systems lawful at the time of the adoption of this <i>Code</i> may continue in use, be maintained or repaired, or have components replaced if the use, maintenance, repair, or component replacement occurs in accordance with system design and specifications of the original system, and no hazard to life, health, or property is likely to result.</p> <p>If changes are required for correction of hazards, the authority having jurisdiction may approve a compliance schedule for such work.</p> <p>Informational Note: WAC 296-46B-010(14) requirements for adding, altering, or repairing electrical installations in existing buildings are incorporated herein with edits.</p> <p>(C) Changes in Building Occupancy. Electrical systems that are part of a building or structure undergoing a change in occupancy as defined in the <i>Seattle Building Code</i> shall comply with all requirements of this Code that are applicable to the new occupancy group or use.</p> <p>(D) Maintenance. All electrical systems, materials,</p>	<p>(A) Additions, Alterations, Renovations, or Repairs. Additions, <i>alterations</i>, renovations, or repairs may be made to any electrical system without requiring the existing electrical system to comply with the requirements of this Code, if the addition, <i>alteration</i>, renovation, or repair conforms to the standards required for a new electrical system. Additions, <i>alterations</i>, renovations, or repairs shall not cause an existing system to become <i>unsafe</i>, unhealthy, or overloaded. This section does not limit the effect of applicable retroactive ordinances.</p> <p><i>Exception: Subject to the approval of the authority having jurisdiction, repairs may be made with the same materials of which the building or structure is constructed, other than for the replacement of receptacles as provided in NEC Section 406.4(D), provided the repair complies with the electrical code in effect at the time of original installation and provided further that no change shall be permitted which increases its hazard.</i></p> <p>(B) Existing Electrical Installations. Electrical systems lawful at the time of the adoption of this <i>Code</i> may continue in use, be maintained or repaired, or have components replaced if the use, maintenance, repair, or component replacement occurs in accordance with system design and specifications of the original system, and no hazard to life, health, or property is likely to result.</p> <p>If changes are required for correction of hazards, the authority having jurisdiction may approve a compliance schedule for such work.</p> <p>Informational Note: WAC 296-46B-010(14) requirements for adding, altering, or repairing electrical installations in existing buildings are incorporated herein with edits.</p> <p>(C) Changes in Building Occupancy. Electrical systems that are part of a building or structure undergoing a change in occupancy as defined in the <i>Seattle Building Code</i> shall comply with all</p>	<p>No WAC amendment.</p> <p>Correcting typo in code reference in exception to (A)</p> <p>5/9/2024 Internal Committee: adopt change.</p>

			<p><i>equipment</i>, appurtenances, and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard-free condition. All devices or safeguards that were required by a code in effect when the electrical system was installed shall be maintained in conformance with the code edition under which installed. The owner or the owner’s authorized agent shall be responsible for maintenance of electrical systems and <i>equipment</i>.</p> <p>(E) Moved Buildings. Electrical permits for electrical work performed on a building or structure moved into or within the City shall be obtained from the authority having jurisdiction. The authority having jurisdiction will inspect the electrical system for deficiencies and issue corrections. Deficiencies shall be corrected before a certificate of occupancy will be issued.</p> <p>The service to a moved building or structure shall comply with this <i>Code</i>. Other than the service, a building or structure moved into or within the City is not required to comply with this <i>Code</i> if the original occupancy classification of the building or structure is not changed. A building or structure that undergoes a substantial alteration as defined in Section 304.1.1 of the <i>Seattle Existing Building Code</i> and a building or structure wired by standards other than those recognized by this <i>Code</i> and the <i>National Electrical Code</i> shall comply with this <i>Code</i>.</p> <p>Any moved building that is not in compliance within one year from the date of permit issuance and is found to be a public nuisance may be abated.</p> <p>Informational Note: For the definition of <i>Occupancy Classification</i>, see Chapter 3 of the <i>Seattle Building Code</i>.</p> <p>(F) Landmarks—Historic Buildings and Structures. The authority having jurisdiction may modify the specific requirements of this <i>Code</i> as it applies to landmarks and require in lieu thereof alternate requirements that, in the</p>	<p>requirements of this Code that are applicable to the new occupancy group or use.</p> <p>(D) Maintenance. All electrical systems, materials, <i>equipment</i>, appurtenances, and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard-free condition. All devices or safeguards that were required by a code in effect when the electrical system was installed shall be maintained in conformance with the code edition under which installed. The owner or the owner’s authorized agent shall be responsible for maintenance of electrical systems and <i>equipment</i>.</p> <p>(E) Moved Buildings. Electrical permits for electrical work performed on a building or structure moved into or within the City shall be obtained from the authority having jurisdiction. The authority having jurisdiction will inspect the electrical system for deficiencies and issue corrections. Deficiencies shall be corrected before a certificate of occupancy will be issued.</p> <p>The service to a moved building or structure shall comply with this <i>Code</i>. Other than the service, a building or structure moved into or within the City is not required to comply with this <i>Code</i> if the original occupancy classification of the building or structure is not changed. A building or structure that undergoes a substantial alteration as defined in Section 304.1.1 of the <i>Seattle Existing Building Code</i> and a building or structure wired by standards other than those recognized by this <i>Code</i> and the <i>National Electrical Code</i> shall comply with this <i>Code</i>.</p> <p>Any moved building that is not in compliance within one year from the date of permit issuance and is found to be a public nuisance may be abated.</p> <p>Informational Note: For the definition of <i>Occupancy Classification</i>, see Chapter 3 of the <i>Seattle Building Code</i>.</p> <p>(F) Landmarks—Historic Buildings and Structures. The authority having jurisdiction may modify the specific requirements of this <i>Code</i> as it applies to landmarks and require in lieu thereof alternate requirements that, in the</p>	
S	80.6	Utilization Equipment and Alternative Materials and Methods of Wiring	<p>Utilization Equipment and Alternative Materials and Methods of Wiring. This <i>Code</i> does not prevent the use of any utilization equipment, material, method, or design of wiring not specifically allowed or prohibited by this <i>Code</i>, provided the same has been approved and its use authorized by the authority having jurisdiction.</p> <p>The authority having jurisdiction may approve an <i>alternative</i>, provided the proposed alternative complies with the provisions of this <i>Code</i> and the alternative, when considered together with other safety features or relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety, and sanitation.</p> <p>The authority having jurisdiction may require that sufficient evidence or proof be submitted to substantiate any claims regarding the use or suitability of utilization equipment, material, method, or</p>	<p>Utilization Equipment and Alternative Materials and Methods of Wiring. This <i>Code</i> does not prevent the use of any utilization equipment, material, method, or design of wiring not specifically allowed or prohibited by this <i>Code</i>, provided the same has been approved and its use authorized by the authority having jurisdiction.</p> <p>The authority having jurisdiction may approve an <i>alternative</i>, provided the proposed alternative complies with the provisions of this <i>Code</i> and the alternative, when considered together with other safety features or relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety, and sanitation.</p> <p>The authority having jurisdiction may require that sufficient evidence or proof be submitted to substantiate any claims regarding the use or</p>	<p>No WAC amendment.</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>

			design of wiring. The authority having jurisdiction may, but is not required to, record the approval of alternative materials and methods, and any relevant information, in the files of the authority having jurisdiction or on the approved construction documents or permit.	suitability of utilization equipment, material, method, or design of wiring. The authority having jurisdiction may, but is not required to, record the approval of alternative materials and methods, and any relevant information, in the files of the authority having jurisdiction or on the approved construction documents or permit	
S	80.7	Modifications	<p>Modifications. The authority having jurisdiction may grant modifications for individual cases whenever there are practical difficulties involved in carrying out the provisions of this <i>Code</i>. Prior to granting any modifications, the authority having jurisdiction must first find that:</p> <ol style="list-style-type: none"> (1) the strict application of this <i>Code</i> is impractical under the circumstances; (2) the modification is in conformity with the intent and purpose of this <i>Code</i>; (3) the modification does not lessen any fire protection requirements; (4) the modification does not lessen any degree of structural integrity. <p>The authority having jurisdiction may, but is not required to, record the approval of modifications and any relevant information in the files of the authority having jurisdiction or on the approved permit plans.</p>	<p>Modifications. The authority having jurisdiction may grant modifications for individual cases whenever there are practical difficulties involved in carrying out the provisions of this <i>Code</i>. Prior to granting any modifications, the authority having jurisdiction must first find that:</p> <ol style="list-style-type: none"> (1) the strict application of this <i>Code</i> is impractical under the circumstances; (2) the modification is in conformity with the intent and purpose of this <i>Code</i>; (3) the modification does not lessen any fire protection requirements; (4) the modification does not lessen any degree of structural integrity. <p>The authority having jurisdiction may, but is not required to, record the approval of modifications and any relevant information in the files of the authority having jurisdiction or on the approved permit plans.</p>	<p>No WAC amendment</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	80.8	Tests	<p>Tests. Whenever there is insufficient evidence of compliance with the provisions of this <i>Code</i> or evidence that any material or method of construction does not conform to the requirements of this <i>Code</i>, the authority having jurisdiction may require tests to establish compliance. The permit applicant is responsible for paying the costs of the testing.</p> <p>Test methods shall be as specified in this <i>Code</i> or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the authority having jurisdiction shall determine the test procedures.</p> <p>All tests shall be made by an <i>approved</i> agency. Reports of such tests shall be retained by the authority having jurisdiction until the permit receives final approval.</p>	<p>Tests. Whenever there is insufficient evidence of compliance with the provisions of this <i>Code</i> or evidence that any material or method of construction does not conform to the requirements of this <i>Code</i>, the authority having jurisdiction may require tests to establish compliance. The permit applicant is responsible for paying the costs of the testing.</p> <p>Test methods shall be as specified in this <i>Code</i> or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the authority having jurisdiction shall determine the test procedures.</p> <p>All tests shall be made by an <i>approved</i> agency. Reports of such tests shall be retained by the authority having jurisdiction until the permit receives final approval.</p>	<p>No WAC amendment</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	II	Organization and Enforcement			
S	80.10	Authority	<p>(A) Jurisdiction of Department of Construction and Inspections. The Department of Construction and Inspections is authorized to administer, interpret, and enforce this <i>Code</i> and is referred to throughout this <i>Code</i> as the “authority having jurisdiction.” The Department of Construction and Inspections is under the administrative and operational control of the Director.</p>	<p>(A) Jurisdiction of Department of Construction and Inspections. The Department of Construction and Inspections is authorized to administer, interpret, and enforce this <i>Code</i> and is referred to throughout this <i>Code</i> as the “authority having jurisdiction.” The Department of Construction and Inspections is under the administrative and operational control of the Director.</p>	<p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>

		<p>Whenever the term or title “Electrical Code Official,” “Administrative Authority,” “Responsible Official,” “Chief Inspector,” or “Code Enforcement Officer” is used in this <i>Code</i>, it means the authority having jurisdiction (AHJ).</p> <p>(B) Designees. The authority having jurisdiction is authorized to appoint such officers, inspectors, assistants and other employees as needed. The authority having jurisdiction may authorize such employees as may be necessary to carry out the functions of the Department of Construction and Inspections.</p> <p>(C) Right of Entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the authority having jurisdiction may enter a building or premises at any reasonable time to perform the functions authorized by this <i>Code</i>.</p> <p>(D) Authority to Disconnect Utilities in Emergencies. The authority having jurisdiction has the authority to disconnect or order discontinuance of any utility service or energy supply to buildings, structures, or equipment regulated by this <i>Code</i> in cases of emergency where necessary to eliminate an imminent hazard to life or property. The authority having jurisdiction may enter any building or premises to disconnect utility service or energy supply. The authority having jurisdiction shall, wherever possible, notify the serving utility, owner, and occupant of the building, structure, or premises of the decision to disconnect prior to taking such action, and shall notify the serving utility, owner, and occupant of the building, structure, or premises in writing of such disconnection immediately thereafter.</p> <p>Utility service shall be discontinued until the equipment, appliances, devices, or wiring found to be defective or defectively installed are removed or restored to a safe condition.</p> <p>It shall be unlawful for any person to reconnect any electrical equipment disconnected by the authority having jurisdiction or to connect to an alternative source of energy, fuel, or power supply until the equipment is placed in a safe condition and is approved by the authority having jurisdiction.</p> <p>(E) Connection After Order to Disconnect. No person shall make connections from any energy, fuel or power supply nor supply energy or fuel to any equipment regulated by this <i>Code</i> that has been disconnected or ordered to be disconnected by the authority having jurisdiction, or the use of which has been ordered to be discontinued by the authority having jurisdiction until the authority having jurisdiction authorizes the reconnection and use of such equipment.</p> <p>(F) Liability. Nothing contained in this <i>Code</i> is intended to be nor shall be construed to create or form the basis for any liability on the part of the City or its officers, employees, or agents, for any injury or damage resulting from the failure of a building to conform to the provisions of this <i>Code</i>, or by reason or as a consequence of any inspection, notice, order, certificate, permission, or approval authorized or issued or done in connection with the implementation or enforcement of this <i>Code</i>, or by reason of any action or inaction on the part</p>	<p>Whenever the term or title “Electrical Code Official,” “Administrative Authority,” “Responsible Official,” “Chief Inspector,” or “Code Enforcement Officer” is used in this <i>Code</i>, it means the authority having jurisdiction (AHJ).</p> <p>(B) Designees. The authority having jurisdiction is authorized to appoint such officers, inspectors, assistants and other employees as needed. The authority having jurisdiction may authorize such employees as may be necessary to carry out the functions of the Department of Construction and Inspections.</p> <p>(C) Right of Entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the authority having jurisdiction may enter a building or premises at any reasonable time to perform the functions authorized by this <i>Code</i>.</p> <p>(D) Authority to Disconnect Utilities in Emergencies. The authority having jurisdiction has the authority to disconnect or order discontinuance of any utility service or energy supply to buildings, structures, or equipment regulated by this <i>Code</i> in cases of emergency where necessary to eliminate an imminent hazard to life or property. The authority having jurisdiction may enter any building or premises to disconnect utility service or energy supply. The authority having jurisdiction shall, wherever possible, notify the serving utility, owner, and occupant of the building, structure, or premises of the decision to disconnect prior to taking such action, and shall notify the serving utility, owner, and occupant of the building, structure, or premises in writing of such disconnection immediately thereafter.</p> <p>Utility service shall be discontinued until the equipment, appliances, devices, or wiring found to be defective or defectively installed are removed or restored to a safe condition.</p> <p>It shall be unlawful for any person to reconnect any electrical equipment disconnected by the authority having jurisdiction or to connect to an alternative source of energy, fuel, or power supply until the equipment is placed in a safe condition and is approved by the authority having jurisdiction.</p> <p>(E) Connection After Order to Disconnect. No person shall make connections from any energy, fuel or power supply nor supply energy or fuel to any equipment regulated by this <i>Code</i> that has been disconnected or ordered to be disconnected by the authority having jurisdiction, or the use of which has been ordered to be discontinued by the authority having jurisdiction until the authority having jurisdiction authorizes the reconnection and use of such equipment.</p> <p>(F) Liability. Nothing contained in this <i>Code</i> is intended to be nor shall be construed to create or form the basis for any liability on the part of the City or its officers, employees, or agents, for any injury or damage resulting from the failure of a building to conform to the provisions of this <i>Code</i>, or by reason or as a consequence of any inspection, notice, order, certificate, permission,</p>	
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			<p>of the City related in any manner to the enforcement of this <i>Code</i> by its officers, employees or agents.</p> <p>This <i>Code</i> shall not be construed to relieve or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the Department of Construction and Inspections or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this <i>Code</i> or any permits or certificates issued under this <i>Code</i>.</p> <p>Neither the authority having jurisdiction nor any employee charged with the enforcement of this <i>Code</i> shall be personally liable for any damage that accrues to persons or property as a result of any act or omission committed in the discharge of their duties, provided that the authority having jurisdiction or employee acted in good faith and without malice.</p> <p>(G) Code Interpretation or Explanation. Electrical inspectors may give information as to the meaning or application of the <i>National Electrical Code</i> and the Seattle Supplement, but shall not lay out work or act as consultants for contractors, owners, or users.</p> <p>(H) Cooperation of Other Officials and Officers. The authority having jurisdiction may request, and shall receive as far as may be necessary in the discharge of duties, the assistance and cooperation of other officials of the City of Seattle and officers of public and private utilities.</p>	<p>or approval authorized or issued or done in connection with the implementation or enforcement of this <i>Code</i>, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this <i>Code</i> by its officers, employees or agents.</p> <p>This <i>Code</i> shall not be construed to relieve or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the Department of Construction and Inspections or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this <i>Code</i> or any permits or certificates issued under this <i>Code</i>.</p> <p>Neither the authority having jurisdiction nor any employee charged with the enforcement of this <i>Code</i> shall be personally liable for any damage that accrues to persons or property as a result of any act or omission committed in the discharge of their duties, provided that the authority having jurisdiction or employee acted in good faith and without malice.</p> <p>(G) Code Interpretation or Explanation. Electrical inspectors may give information as to the meaning or application of the <i>National Electrical Code</i> and the Seattle Supplement, but shall not lay out work or act as consultants for contractors, owners, or users.</p> <p>(H) Cooperation of Other Officials and Officers. The authority having jurisdiction may request, and shall receive as far as may be necessary in the discharge of duties, the assistance and cooperation of other officials of the City of Seattle and officers of public and private utilities.</p>	
S	80.11	Responsibility for Compliance	<p>Responsibility for Compliance. Responsibility for compliance with the requirements of this <i>Code</i> shall be the obligation of the owner of the building, structure, or premises, the duly authorized agent of the owner, or other person responsible for the condition or work, and not of the City or any of its officers or employees.</p>	<p>Responsibility for Compliance. Responsibility for compliance with the requirements of this <i>Code</i> shall be the obligation of the owner of the building, structure, or premises, the duly authorized agent of the owner, or other person responsible for the condition or work, and not of the City or any of its officers or employees.</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	80.12	Unsafe Conditions.	<p>(A) Unsafe Conditions or Code Violations. The authority having jurisdiction may inspect any new or existing electrical installation or equipment, and if the installation or equipment is found to be maintained or used in an unsafe condition or found to be in violation of this <i>Code</i>, the authority having jurisdiction is authorized to serve upon the owner, agent, or other person responsible for the condition a notice or order stating the required correction. Any person served such notice who fails to comply with the order therein shall be in violation of this ordinance and subject to the penalties provided in this <i>Code</i>.</p> <p>(B) Emergency Orders. Whenever the authority having jurisdiction finds that any building or structure, or portion thereof, is in such a dangerous and unsafe condition as to constitute an imminent hazard to life or limb, the authority</p>	<p>(A) Unsafe Conditions or Code Violations. The authority having jurisdiction may inspect any new or existing electrical installation or equipment, and if the installation or equipment is found to be maintained or used in an unsafe condition or found to be in violation of this <i>Code</i>, the authority having jurisdiction is authorized to serve upon the owner, agent, or other person responsible for the condition a notice or order stating the required correction. Any person served such notice who fails to comply with the order therein shall be in violation of this ordinance and subject to the penalties provided in this <i>Code</i>.</p> <p>(B) Emergency Orders. Whenever the authority having jurisdiction finds that any building or structure, or portion thereof, is in such a dangerous and unsafe condition as to constitute an imminent hazard to life or</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>

			<p>having jurisdiction may issue an emergency order. The emergency order may (1) direct that the building or structure, or portion thereof, be restored to a safe condition; (2) require that the building or structure, or portion thereof, be vacated by a date certain to be specified in the order; and (3) in the case of extreme danger may specify immediate vacation of the building or structure and authorize the disconnection of utilities or energy source pursuant to Section 80.10(D). No person shall occupy the building or structure, or portion thereof, after the date on which it is required to be vacated until it is restored to a safe condition as required by the order and this <i>Code</i>. It shall be unlawful for any person to fail to comply with an emergency order issued by the authority having jurisdiction.</p> <p>(1) Service of the Emergency Order. The order shall be posted on the premises or personally served on the owner of the building or premises or any person responsible for the condition. The order shall specify a date certain for compliance. Service shall be in the manner set forth in Section 80.13 of this <i>Code</i>.</p> <p>(2) Effect of the Emergency Order. No person may occupy a building, structure, or premises, or portion thereof, after the date on which the building is required to be vacated until the building, structure, or premises, or portion thereof, is restored to a safe condition as required by the order and this <i>Code</i>. It is a violation for any person to fail to comply with an emergency order issued by the authority having jurisdiction.</p> <p>(C) Hazard correction order. Whenever the authority having jurisdiction finds that unsafe equipment exists, the authority having jurisdiction may issue a hazard correction order specifying the conditions causing the equipment to be unsafe and directing the owner or other person responsible for the unsafe equipment to correct the condition by a date certain. In lieu of correction, the owner may submit a report or analysis to the authority having jurisdiction analyzing the conditions and establishing that the equipment is, in fact safe. The authority having jurisdiction may require that the report or analysis be prepared by a licensed engineer.</p> <p>(1) Service of hazard correction order. The order shall be served upon the owner, agent, or other responsible person by personal service or regular first-class mail addressed to the last known address of such person or if no address is available after reasonable inquiry, the order may be posted in a conspicuous place on the premises. The order may also be posted if served by personal service or first-class mail.</p> <p>(2) Effect of hazard correction order. It is a violation for any person to fail to comply with a hazard correction order as specified in this subsection.</p>	<p>limb, the authority having jurisdiction may issue an emergency order. The emergency order may (1) direct that the building or structure, or portion thereof, be restored to a safe condition; (2) require that the building or structure, or portion thereof, be vacated by a date certain to be specified in the order; and (3) in the case of extreme danger may specify immediate vacation of the building or structure and authorize the disconnection of utilities or energy source pursuant to Section 80.10(D). No person shall occupy the building or structure, or portion thereof, after the date on which it is required to be vacated until it is restored to a safe condition as required by the order and this <i>Code</i>. It shall be unlawful for any person to fail to comply with an emergency order issued by the authority having jurisdiction.</p> <p>(1) Service of the Emergency Order. The order shall be posted on the premises or personally served on the owner of the building or premises or any person responsible for the condition. The order shall specify a date certain for compliance. Service shall be in the manner set forth in Section 80.13 of this <i>Code</i>.</p> <p>(2) Effect of the Emergency Order. No person may occupy a building, structure, or premises, or portion thereof, after the date on which the building is required to be vacated until the building, structure, or premises, or portion thereof, is restored to a safe condition as required by the order and this <i>Code</i>. It is a violation for any person to fail to comply with an emergency order issued by the authority having jurisdiction.</p> <p>(C) Hazard correction order. Whenever the authority having jurisdiction finds that unsafe equipment exists, the authority having jurisdiction may issue a hazard correction order specifying the conditions causing the equipment to be unsafe and directing the owner or other person responsible for the unsafe equipment to correct the condition by a date certain. In lieu of correction, the owner may submit a report or analysis to the authority having jurisdiction analyzing the conditions and establishing that the equipment is, in fact safe. The authority having jurisdiction may require that the report or analysis be prepared by a licensed engineer.</p> <p>(1) Service of hazard correction order. The order shall be served upon the owner, agent, or other responsible person by personal service or regular first-class mail addressed to the last known address of such person or if no address is available after reasonable inquiry, the order may be posted in a conspicuous place on the premises. The order may also be posted if served by personal service or first-class mail.</p> <p>(2) Effect of hazard correction order. It is a violation for any person to fail to comply with a hazard correction order as specified in this subsection.</p>	
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S	80.13	Enforcement, Violations, and Penalties	<p>(A) Violations. It shall be a violation of this <i>Code</i> for any person, firm, or corporation to:</p> <ol style="list-style-type: none"> (1) erect, construct, enlarge, repair, move, improve, remove, convert, or demolish, equip, occupy, or maintain any building or structure in the City, contrary to or in violation of any of the provisions of this <i>Code</i>; (2) knowingly aid, abet, counsel, encourage, hire, commend, induce, or otherwise procure another to violate or fail to comply with any of the provisions of this <i>Code</i>; (3) use any materials or to install any device, appliance, or equipment which does not comply with applicable standards of this <i>Code</i> or which has not been approved by the authority having jurisdiction; (4) violate or fail to comply with any final order issued by the building official pursuant to the provisions of this <i>Code</i> or with any requirements of this <i>Code</i>; (5) remove, mutilate, destroy, or conceal any notice or order issued or posted by the building official pursuant to the provisions of this <i>Code</i>, or any notice or order issued or posted by the building official in response to a natural disaster or other emergency; or (6) conduct work under permit without requesting inspections required by this <i>Code</i>. <p>(B) Notice of Violation. If, after investigation, the authority having jurisdiction determines that standards or requirements of this <i>Code</i> have been violated or that orders or requirements have not been complied with, the authority having jurisdiction may serve a notice of violation upon the owner, agent, or other person responsible for the action or condition. The notice of violation shall state the standards or requirements violated, what corrective action, if any, is necessary to comply with the standards or requirements, and a date certain for compliance.</p> <ol style="list-style-type: none"> (1) Serving the Notice of Violation. The notice shall be served upon the owner, agent, or other responsible person by personal service or first-class mail addressed to the last known address of such person. If no address is available after reasonable inquiry, the notice may be posted at a conspicuous place on the property. The notice may also be posted even if served by personal service or first-class mail. The notice of violation shall be considered a final order of the authority having jurisdiction if no request for review before the authority having jurisdiction is made pursuant to Section 80.13(B)(2). Nothing in this section limits or precludes any action or proceeding to enforce this Article, and nothing obligates or requires the authority having jurisdiction to issue a notice of violation prior to the imposition of civil or criminal 	<p>(A) Violations. It shall be a violation of this <i>Code</i> for any person, firm, or corporation to:</p> <ol style="list-style-type: none"> (1) erect, construct, enlarge, repair, move, improve, remove, convert, or demolish, equip, occupy, or maintain any building or structure in the City, contrary to or in violation of any of the provisions of this <i>Code</i>; (2) knowingly aid, abet, counsel, encourage, hire, commend, induce, or otherwise procure another to violate or fail to comply with any of the provisions of this <i>Code</i>; (3) use any materials or to install any device, appliance, or equipment which does not comply with applicable standards of this <i>Code</i> or which has not been approved by the authority having jurisdiction; (4) violate or fail to comply with any final order issued by the building official pursuant to the provisions of this <i>Code</i> or with any requirements of this <i>Code</i>; (5) remove, mutilate, destroy, or conceal any notice or order issued or posted by the building official pursuant to the provisions of this <i>Code</i>, or any notice or order issued or posted by the building official in response to a natural disaster or other emergency; or (6) conduct work under permit without requesting inspections required by this <i>Code</i>. <p>(B) Notice of Violation. If, after investigation, the authority having jurisdiction determines that standards or requirements of this <i>Code</i> have been violated or that orders or requirements have not been complied with, the authority having jurisdiction may serve a notice of violation upon the owner, agent, or other person responsible for the action or condition. The notice of violation shall state the standards or requirements violated, what corrective action, if any, is necessary to comply with the standards or requirements, and a date certain for compliance.</p> <ol style="list-style-type: none"> (1) Serving the Notice of Violation. The notice shall be served upon the owner, agent, or other responsible person by personal service or first-class mail addressed to the last known address of such person. If no address is available after reasonable inquiry, the notice may be posted at a conspicuous place on the property. The notice may also be posted even if served by personal service or first-class mail. The notice of violation shall be considered a final order of the authority having jurisdiction if no request for review before the authority having jurisdiction is made pursuant 	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>

		<p>penalties.</p> <p>(2) Review of Notice of Violation by the Authority Having Jurisdiction.</p> <p>(a) Any person affected by a notice of violation issued pursuant to Section 80.13(B) may obtain a review of the notice by making a request in writing within 10 days after service of the notice. When the last day of the period computed is a Saturday, Sunday, or City holiday, the period runs until 5:00 p.m. of the next business day.</p> <p>The review shall occur not less than 10 nor more than 20 days after the request is received by the authority having jurisdiction unless otherwise agreed by the person requesting the review.</p> <p>Any person affected by the notice of violation may submit additional information to the authority having jurisdiction within ten days after the request for review is filed, unless the authority having jurisdiction and the person requesting the review agree to a different time period for documents to be submitted.</p> <p>(b) The review shall be made by a representative of the authority having jurisdiction who will review any additional information that is submitted and the basis for issuance of the notice of violation. The reviewer may request clarification of the information received and a site visit.</p> <p>After the review, the authority having jurisdiction shall:</p> <ol style="list-style-type: none"> 1. Sustain the notice; or 2. Withdraw the notice; or 3. Amend the notice; or 4. Continue the review to a date certain. <p>(c) The authority having jurisdiction shall issue an order containing the decision within 15 days of the date that the review is completed and shall mail or cause the order to be mailed by regular first-class mail to the persons requesting the review and the persons named on the notice of violation, addressed to their last known addresses. This decision is the final order of the authority having jurisdiction.</p> <p>(C) Stop Work Orders. Whenever any installation, alteration, repair, or removal of electrical work is being done contrary to the provisions of this <i>Code</i>, or in the event of dangerous or unsafe conditions related to electrical work, the authority having jurisdiction may issue a stop work order describing the violation or unsafe condition at the site. No electrical work may proceed until the described violation or condition is corrected and approved by the authority having jurisdiction.</p>	<p>to Section 80.13(B)(2). Nothing in this section limits or precludes any action or proceeding to enforce this Article, and nothing obligates or requires the authority having jurisdiction to issue a notice of violation prior to the imposition of civil or criminal penalties.</p> <p>(2) Review of Notice of Violation by the Authority Having Jurisdiction.</p> <p>(a) Any person affected by a notice of violation issued pursuant to Section 80.13(B) may obtain a review of the notice by making a request in writing within 10 days after service of the notice. When the last day of the period computed is a Saturday, Sunday, or City holiday, the period runs until 5:00 p.m. of the next business day.</p> <p>The review shall occur not less than 10 nor more than 20 days after the request is received by the authority having jurisdiction unless otherwise agreed by the person requesting the review.</p> <p>Any person affected by the notice of violation may submit additional information to the authority having jurisdiction within ten days after the request for review is filed, unless the authority having jurisdiction and the person requesting the review agree to a different time period for documents to be submitted.</p> <p>(b) The review shall be made by a representative of the authority having jurisdiction who will review any additional information that is submitted and the basis for issuance of the notice of violation. The reviewer may request clarification of the information received and a site visit.</p> <p>After the review, the authority having jurisdiction shall:</p> <ol style="list-style-type: none"> 1. Sustain the notice; or 2. Withdraw the notice; or 3. Amend the notice; or 4. Continue the review to a date certain. <p>(c) The authority having jurisdiction shall issue an order containing the decision within 15 days of the date that the review is completed and shall mail or cause the order to be mailed by regular first-class mail to the persons requesting the review and the persons named on the notice of violation, addressed to their last known</p>	
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		<p>(1) Service of Stop Work Order. The authority having jurisdiction may serve the stop work order by posting it in a conspicuous place at the site, if posting is physically possible. If posting is not physically possible the stop work order may be served by personal service or by first class mail to the last known address of the property</p> <p>owner, the person doing or causing the work to be done, and the holder of a permit if work is being stopped on a permit. For the purpose of this section, service is complete at the time of posting or of personal service, or if mailed, 3 days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday, or City holiday, the period runs until 5:00 p.m. on the next business day.</p> <p>(2) Effective Date of Stop Work Order. Stop work orders are effective when posted, or if posting is not physically possible, when one of the persons identified in Section 80.11(B)(1) is served.</p> <p>(3) Review by the Authority Having Jurisdiction for Stop Work Orders</p> <p>(a) Any person aggrieved by a stop work order may obtain a review of the order by delivering to the authority having jurisdiction a request in writing within 2 business days of the date of service of the stop work order. The review shall occur within 2 business days after receipt by the authority having jurisdiction of the request for review unless the requestor agrees to a longer time. Any person aggrieved by or interested in the stop work order may submit additional information to the authority having jurisdiction for consideration as part of the review at any time prior to the review.</p> <p>(b) The review will be made by a representative of the authority having jurisdiction who will review all additional information received and may also request a site visit. After the review, the authority having jurisdiction may:</p> <ol style="list-style-type: none"> (1) Sustain the stop work order; (2) Withdraw the stop work order; (3) Modify the stop work order; or (4) Continue the review to a date certain for receipt of additional information. <p>(c) The authority having jurisdiction shall issue an order of the authority having jurisdiction containing the decision within 2 business days after the review and shall cause the order to be sent by first class mail to the person or persons requesting the review, any person on whom the stop work order was served, and any other person who requested a copy before issuance of the order, addressed to their last known</p>	<p>addresses. This decision is the final order of the authority having jurisdiction.</p> <p>(C) Stop Work Orders. Whenever any installation, alteration, repair, or removal of electrical work is being done contrary to the provisions of this <i>Code</i>, or in the event of dangerous or unsafe conditions related to electrical work, the authority having jurisdiction may issue a stop work order describing the violation or unsafe condition at the site. No electrical work may proceed until the described violation or condition is corrected and approved by the authority having jurisdiction.</p> <p>(1) Service of Stop Work Order. The authority having jurisdiction may serve the stop work order by posting it in a conspicuous place at the site, if posting is physically possible. If posting is not physically possible the stop work order may be served by personal service or by first class mail to the last known address of the property</p> <p>owner, the person doing or causing the work to be done, and the holder of a permit if work is being stopped on a permit. For the purpose of this section, service is complete at the time of posting or of personal service, or if mailed, 3 days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday, or City holiday, the period runs until 5:00 p.m. on the next business day.</p> <p>(2) Effective Date of Stop Work Order. Stop work orders are effective when posted, or if posting is not physically possible, when one of the persons identified in Section 80.11(B)(1) is served.</p> <p>(3) Review by the Authority Having Jurisdiction for Stop Work Orders</p> <p>(a) Any person aggrieved by a stop work order may obtain a review of the order by delivering to the authority having jurisdiction a request in writing within 2 business days of the date of service of the stop work order. The review shall occur within 2 business days after receipt by the authority having jurisdiction of the request for review unless the requestor agrees to a longer time. Any person aggrieved by or interested in the stop work order may submit additional information to the authority having jurisdiction for consideration as part of the review at any time prior to the review.</p> <p>(b) The review will be made by a representative of the authority having jurisdiction who will review all additional information received and may also request a site visit. After the review, the authority having jurisdiction may:</p>	
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			<p>address.</p> <p>(D) Civil Actions and Penalties.</p> <p>(1) Civil Penalties. Any person found violating or failing to comply with the provisions of this <i>Code</i> shall be subject to a cumulative civil penalty in an amount not to exceed \$500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the authority having jurisdiction has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.</p> <p>(2) Enforcement in Municipal Court. Civil actions to enforce this chapter shall be brought exclusively in Seattle Municipal Court, except as otherwise required by law or court rule. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an order following a review by the authority having jurisdiction is not itself evidence that a violation exists.</p> <p>(3) Judicial Review. Because civil actions to enforce this <i>Code</i> must be brought exclusively in Seattle Municipal Court pursuant to Subsection 80.13(D)(2), orders of the authority having jurisdiction, including notices of violation issued under this chapter, are not subject to judicial review pursuant to chapter 36.70C RCW.</p> <p>(4) Appeal to Superior Court. Final decisions of the Seattle Municipal Court on enforcement actions authorized by Title 22 and this <i>Code</i> may be appealed pursuant to the Rules for Appeal of Decisions of Courts of Limited Jurisdiction.</p> <p>(E) Alternative Criminal Penalty. Anyone violating or failing to comply with any notice of violation or order issued by the authority having jurisdiction pursuant to this <i>Code</i> or who removes, mutilates, destroys, or conceals a notice issued or posted by the authority having jurisdiction shall, upon conviction thereof, be punished by a fine of not more than \$5,000 or by imprisonment for not more than 365 days, or by both such fine and imprisonment for each separate violation. Each day's violation shall constitute a separate offense.</p> <p>(F) Additional Relief. The authority having jurisdiction may seek legal or equitable relief to enjoin any acts or practices and abate any condition when necessary to achieve compliance.</p>	<p>(5) Sustain the stop work order;</p> <p>(6) Withdraw the stop work order;</p> <p>(7) Modify the stop work order; or</p> <p>(8) Continue the review to a date certain for receipt of additional information.</p> <p>(c) The authority having jurisdiction shall issue an order of the authority having jurisdiction containing the decision within 2 business days after the review and shall cause the order to be sent by first class mail to the person or persons requesting the review, any person on whom the stop work order was served, and any other person who requested a copy before issuance of the order, addressed to their last known address.</p> <p>(D) Civil Actions and Penalties.</p> <p>(1) Civil Penalties. Any person found violating or failing to comply with the provisions of this <i>Code</i> shall be subject to a cumulative civil penalty in an amount not to exceed \$500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the authority having jurisdiction has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.</p> <p>(2) Enforcement in Municipal Court. Civil actions to enforce this chapter shall be brought exclusively in Seattle Municipal Court, except as otherwise required by law or court rule. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of a notice of violation or of an order following a review by the authority having jurisdiction is not itself evidence that a violation exists.</p> <p>(3) Judicial Review. Because civil actions to enforce this <i>Code</i> must be brought exclusively in Seattle Municipal Court pursuant to Subsection 80.13(D)(2), orders of the authority having jurisdiction, including notices of violation issued under this chapter, are not subject to judicial review pursuant to chapter 36.70C RCW.</p> <p>(4) Appeal to Superior Court. Final decisions of the Seattle Municipal Court on enforcement actions authorized by Title 22 and this <i>Code</i> may be appealed pursuant to the Rules for Appeal of Decisions of Courts of Limited Jurisdiction.</p> <p>(E) Alternative Criminal Penalty. Anyone violating or failing to comply with any notice of violation or order issued by the authority having jurisdiction pursuant to</p>	
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				<p>this <i>Code</i> or who removes, mutilates, destroys, or conceals a notice issued or posted by the authority having jurisdiction shall, upon conviction thereof, be punished by a fine of not more than \$5,000 or by imprisonment for not more than 365 days, or by both such fine and imprisonment for each separate violation. Each day's violation shall constitute a separate offense.</p> <p>(F) Additional Relief. The authority having jurisdiction may seek legal or equitable relief to enjoin any acts or practices and abate any condition when necessary to achieve compliance.</p>	
S	80.14	Recording of Notices	<p>Recording of Notices. The authority having jurisdiction may record a copy of any order or notice with the Department of Records and Elections of King County.</p> <p>The authority having jurisdiction may record with the Department of Records and Elections of King County a notice that a permit has expired without a final inspection after reasonable efforts have been made to obtain a final inspection.</p>	<p>Recording of Notices. The authority having jurisdiction may record a copy of any order or notice with the Department of Records and Elections of King County.</p> <p>The authority having jurisdiction may record with the Department of Records and Elections of King County a notice that a permit has expired without a final inspection after reasonable efforts have been made to obtain a final inspection.</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	80.15	Rules of the Authority Having Jurisdiction.	<p>(A) Authority. The authority having jurisdiction has authority to issue interpretations of this <i>Code</i> and to adopt and enforce rules and regulations supplemental to this <i>Code</i> as may be deemed necessary in order to clarify the application of the provisions of this <i>Code</i>. Such interpretations, rules, and regulations shall be in conformity with the intent and purpose of this <i>Code</i>.</p> <p>(B) Procedure for Adoption of Rules. The authority having jurisdiction shall promulgate, adopt, and issue rules according to the procedures as specified in the <i>Administrative Code</i>, Chapter 3.02 of the <i>Seattle Municipal Code</i>.</p>	<p>(A) Authority. The authority having jurisdiction has authority to issue interpretations of this <i>Code</i> and to adopt and enforce rules and regulations supplemental to this <i>Code</i> as may be deemed necessary in order to clarify the application of the provisions of this <i>Code</i>. Such interpretations, rules, and regulations shall be in conformity with the intent and purpose of this <i>Code</i>.</p> <p>(B) Procedure for Adoption of Rules. The authority having jurisdiction shall promulgate, adopt, and issue rules according to the procedures as specified in the <i>Administrative Code</i>, Chapter 3.02 of the <i>Seattle Municipal Code</i>.</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	80.16	Construction Codes Advisory Board	<p>Construction Codes Advisory Board. An Electrical Code Committee of the Construction Codes Advisory Board, as established in Section 105 of the <i>Seattle Building Code</i>, may examine proposed new editions of and amendments to this <i>Code</i> and any proposed administrative rules promulgated to enforce this <i>Code</i>. The Electrical Code Committee may make recommendations to the authority having jurisdiction and to the City Council relating to this <i>Code</i> and administrative rules. The committee may be called on an as-needed basis for the Construction Codes Advisory Board.</p>	<p>Construction Codes Advisory Board. An Electrical Code Committee of the Construction Codes Advisory Board, as established in Section 105 of the <i>Seattle Building Code</i>, may examine proposed new editions of and amendments to this <i>Code</i> and any proposed administrative rules promulgated to enforce this <i>Code</i>. The Electrical Code Committee may make recommendations to the authority having jurisdiction and to the City Council relating to this <i>Code</i> and administrative rules. The committee may be called on an as-needed basis for the Construction Codes Advisory Board.</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p> <p>5/9/2024 Committee: No changes, carry forward</p>
S	80.17	Administrative Review	<p>Administrative Review. Prior to issuance of the electrical permit, applicants may request administrative review by the authority having jurisdiction of decisions or actions pertaining to the application and interpretation of this <i>Code</i> by the Construction Codes Advisory Board according to International Building Code Section 103.11, except for emergency orders, hazard correction orders, stop work orders, notices of violations, and revocations of permits. The Chair shall consider the subject of the review and members' expertise when selecting members to conduct a review.</p>	<p>Administrative Review. Prior to issuance of the electrical permit, applicants may request administrative review by the authority having jurisdiction of decisions or actions pertaining to the application and interpretation of this <i>Code</i> by the Construction Codes Advisory Board according to International Building Code Section 103.11, except for emergency orders, hazard correction orders, stop work orders, notices of violations, and revocations of permits. The Chair shall consider the subject of the review and members' expertise when</p>	<p>No WAC amendment:</p> <p>No changes. Carry forward 2020 SEC language into 2023 SEC.</p>

			The decision of the review is advisory only; the final decision is made by the authority having jurisdiction.	selecting members to conduct a review. The decision of the review is advisory only; the final decision is made by the authority having jurisdiction.	5/9/2024 Committee: No changes, carry forward
S	III	Permits and Inspections			
S	80.50	Permit Application	<p>(A) Permit Required. It shall be unlawful to install, alter, repair, replace, modify, extend, or connect any electrical equipment, or allow the same to be done, without first obtaining a permit for the work from the authority having jurisdiction, except as allowed in subsections (B) and (C) of this Section. A separate electrical permit is required for each separate building or structure.</p> <p>Informational Note: See the “Smoke and Fire Protection Features” section in the <i>Seattle Building Code</i> for required protection methods when electrical work penetrates fire-resistance rated building elements.</p> <p>(B) Like-in-Kind Replacement. An electrical permit shall not be required for the like-in-kind replacement of the following electrical equipment:</p> <ol style="list-style-type: none"> (1) no more than 5 single-family residential luminaires, snap switches, dimmers, receptacles, lamps, or luminaire ballasts with an identical ballast; (2) a single set of fuses, a single battery smaller than 150 amp hour, or single lead acid batteries; (3) circuit breakers, contactors, relays, timers, starters, circuit boards, thermostats, or similar control components. For the purpose of this section, “circuit breaker” means a circuit breaker that is used to provide overcurrent protection only for a branch circuit, as defined in NEC 100; (4) household appliance, gas or oil furnace, water heater, baseboard heater, and wall heating unit when the equipment is reconnected to a circuit that was lawfully installed and approved, and no alteration of the circuit is necessary; (5) component(s) of electrical signs, outline lighting, or skeleton neon tubing when replaced on-site by an appropriately licensed electrical contractor and when the sign, outline lighting or skeleton neon tubing system is not modified; (6) one 10-horsepower or smaller motor; (7) electrical equipment repaired or installed in connection with an elevator, dumbwaiter, or similar conveyance when the equipment work is covered under an issued elevator permit; and (8) lead acid batteries supporting a listed UPS system when replaced by a factory authorized technician. <p>(C) Work Exempt from Permitting Requirements. An</p>	<p>(A) Permit Required. It shall be unlawful to install, alter, repair, replace, modify, extend, or connect any electrical equipment, or allow the same to be done, without first obtaining a permit for the work from the authority having jurisdiction, except as allowed in subsections (B) and (C) of this Section. A separate electrical permit is required for each separate building or structure.</p> <p>Informational Note: See the “Smoke and Fire Protection Features” section in the <i>Seattle Building Code</i> for required protection methods when electrical work penetrates fire-resistance rated building elements.</p> <p>(B) Like-in-Kind Replacement. An electrical permit shall not be required for the like-in-kind replacement of the following electrical equipment:</p> <ol style="list-style-type: none"> (1) no more than 5 single-family residential luminaires, snap switches, dimmers, receptacles, lamps, or luminaire ballasts with an identical ballast; (2) a single set of fuses, a single battery smaller than 150 amp hour, or single lead acid batteries; (3) circuit breakers, contactors, relays, timers, starters, circuit boards, thermostats, or similar control components. For the purpose of this section, “circuit breaker” means a circuit breaker that is used to provide overcurrent protection only for a branch circuit, as defined in NEC 100; household appliances <u>as defined in article 100, gas or oil furnace, water heater, baseboard heater, and wall heating unit when the equipment is reconnected to a circuit that was lawfully installed and approved, and no alteration of the circuit is necessary. For the purpose of this article, “household appliance” means: utilization equipment installed in a dwelling unit that is built in standardized sizes or types and is installed or connected as a unit to perform one or more household functions such as food preparation, cooking, and cleaning. Includes appliances typically installed in a dwelling unit kitchen, clothes washing, drying, and water heating appliances, portable room air conditioning units and portable heaters, etc. Fixed electric space-heating equipment covered in NEC 424 (furnaces, baseboard and wall heaters, electric heat cable, etc.) and fixed air-conditioning/heat pump equipment (NEC 440) are not</u> 	<p>No WAC amendment.</p> <p>Seattle Proposes:</p> <p>Adjusting the requirements for “like-in-kind” replacement to align with the State of Washington’s approach to household appliance.</p> <p>Adding WAC definition of household appliances to 80.50.</p> <p>(C)(4) b. exception. Removing the restriction that one- and two-family dwellings must be 1,000 ft or less for no permit to be required for communications cable installation. With amendment, all one and two dwellings qualify for this exception.</p> <p>(B)(4). Removing gas or oil furnace from the list of items that are allowed to be replaced in kind without a permit. This is being changed to mirror WAC permitting requirements.</p> <p>5/1/2024: Internal Committee: remove exception for gas and oil furnace. Approve as written. Brings in alignment with WAC permitting requirements.</p>

		<p>electrical permit shall not be required for the following electrical equipment:</p> <ol style="list-style-type: none"> (1) induction detection loops used to control gate access devices; (2) induction detection loop or similar circuits for traffic management systems will be accepted by the authority having jurisdiction without inspection; (3) embedded premanufactured heat mats placed in tile grout where the mat is listed by an approved testing laboratory and comes from the manufacturer with preconnected lead-in conductors. All listing marks and lead- in conductor labels must be left intact and visible for evaluation and inspection by the installing electrician and the electrical inspector; and (4) wiring for communication systems and installation of optical fiber cables, as set forth in <i>NEC</i> Chapter 8 and Article 770, as follows: <ol style="list-style-type: none"> (a) in one- and two-family dwellings, or (b) in installations of 1,000 feet or less. <p>Exemption from the permit requirements of this <i>Code</i> shall not be deemed to grant authorization for work done in any manner that violates the provisions of this <i>Code</i> or any other laws or ordinances of the City. All work shall comply with this <i>Code</i>, even where no permit is required.</p> <p>(D) Flood Hazard Areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, as identified in the report entitled “Flood Insurance Study for King County, Washington and Incorporated Areas” and the accompanying Flood Insurance Rate Maps filed in C.F. 296948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance, and Chapter 16 of the <i>Seattle Building Code</i>.</p>	<p><u>household appliances. Household appliance does not mean any utilization equipment that:</u></p> <ol style="list-style-type: none"> <u>(a) Supplies electrical power, other than Class 2, to other utilization equipment; or</u> <u>(b) Receives electrical power, other than Class 2, through other utilization equipment.</u> <ol style="list-style-type: none"> (4) component(s) of electrical signs, outline lighting, or skeleton neon tubing when replaced on-site by an appropriately licensed electrical contractor and when the sign, outline lighting or skeleton neon tubing system is not modified; (5) one 10-horsepower or smaller motor; (6) electrical equipment repaired or installed in connection with an elevator, dumbwaiter, or similar conveyance when the equipment work is covered under an issued elevator permit; and (7) lead acid batteries supporting a listed UPS system when replaced by a factory authorized technician. <p>(C) Work Exempt from Permitting Requirements. An electrical permit shall not be required for the following electrical equipment:</p> <ol style="list-style-type: none"> (1) induction detection loops used to control gate access devices; (2) induction detection loop or similar circuits for traffic management systems will be accepted by the authority having jurisdiction without inspection; (3) embedded premanufactured heat mats placed in tile grout where the mat is listed by an approved testing laboratory and comes from the manufacturer with preconnected lead-in conductors. All listing marks and lead- in conductor labels must be left intact and visible for evaluation and inspection by the installing electrician and the electrical inspector; and (4) wiring for communication systems and installation of optical fiber cables, as set forth in <i>NEC</i> Chapter 8 and Article 770, as follows: in one- and two-family dwellings. <ol style="list-style-type: none"> (a) in one- and two-family dwellings, or (b) in installations of 1,000 feet or less. <p>Exemption from the permit requirements of this <i>Code</i> shall not be deemed to grant authorization for work done in any manner that violates the provisions of this <i>Code</i> or any other laws or ordinances of the City. All work shall comply with this <i>Code</i>, even where no permit is required.</p> <p>(D) Flood Hazard Areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, as identified in the report</p>	
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				entitled "Flood Insurance Study for King County, Washington and Incorporated Areas" and the accompanying Flood Insurance Rate Maps filed in C.F. 296948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance, and Chapter 16 of the <i>Seattle Building Code</i> .	
S	80.51	Application for Permit	<p>(A) Application. To obtain a permit, the applicant shall first file an application in a format determined by the authority having jurisdiction. Every application shall:</p> <ol style="list-style-type: none"> (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, property address, or similar description that will readily identify and definitively locate the proposed building or work; (3) Provide the ((contractor's)) business name, address, phone number <u>for the project contact and contractor ((.))</u> and the contractor's current contractor registration number with state license number of the licensed contractor, if a contractor has been selected; (4) Be accompanied by construction documents, including plans, drawings, diagrams, computations and specifications, equipment schedules, and other data as required in Sections 80.54(B) and (C) when required by the authority having jurisdiction; (5) State the valuation of the electrical work to be done. The valuation of the electrical work is the estimated current value of all labor and material, whether paid for or not, for which the permit is sought; (6) Be ((signed)) <u>electronically submitted</u> by the owner of the property or building, or the owner's authorized agent, who may be required to submit evidence to indicate such authority; (7) Give such other data and information as may be required by the authority having jurisdiction; (8) State the name of the owner and the name, address, and phone number of a contact person; (9) Substantially conform with applicable law in effect on the date described in Section R101.3, as modified by any exception; and (10) Include documentation of compliance with the <i>Seattle Energy Code</i>. The authority having jurisdiction may refuse to issue or may revoke a permit if any statement in the permit application is found to be untrue. <p>(B) Construction Documents.</p> <ol style="list-style-type: none"> (1) General. In addition to the requirements of Section 80.51(A), construction documents, including plans and 	<p>(A) Application. To obtain a permit, the applicant shall first file an application in a format determined by the authority having jurisdiction. Every application shall:</p> <ol style="list-style-type: none"> (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, property address, or similar description that will readily identify and definitively locate the proposed building or work; (3) Provide the ((contractor's)) business name, address, phone number <u>for the project contact and contractor ((.))</u> and the contractor's current contractor registration number with state license number of the licensed contractor, if a contractor has been selected; (4) Be accompanied by construction documents, including plans, drawings, diagrams, computations and specifications, equipment schedules, and other data as required in Sections 80.54(B) and (C) when required by the authority having jurisdiction; (5) State the valuation of the electrical work to be done. The valuation of the electrical work is the estimated current value of all labor and material, whether paid for or not, for which the permit is sought; (6) Be ((signed)) <u>electronically submitted</u> by the owner of the property or building, or the owner's authorized agent, who may be required to submit evidence to indicate such authority; (7) Give such other data and information as may be required by the authority having jurisdiction; (8) State the name of the owner and the name, address, and phone number of a contact person; (9) Substantially conform with applicable law in effect on the date described in Section R101.3, as modified by any exception; and (10) Include documentation of compliance with the <i>Seattle Energy Code</i>. The authority having jurisdiction may refuse to issue or may revoke a permit if any statement in the permit application 	<p>No WAC amendment</p> <p>Seattle Recommends:</p> <p>Carrying over current 2020 SEC amendments at (A)(3), (A)(6) and overlay on 2023 NEC language.</p> <p>Updating application and plan review requirements for photovoltaic and energy storage systems. (B)(1) h: Prescribes different construction documents depending on kW of AC</p> <p>All services (permanent and temporary) need a permit if they are 400 amperes and over. (Currently 600 for permanent.</p> <p>Added pointer to Tip 101 regarding clarity of plans.</p> <p>(B)(4)9--Requiring a complete riser and one-line diagram for smoke control plans.</p> <p>5/7/2024 Committee: Move (B)(k) to (B)(i)</p> <p>5/9/2024 Committee: No changes, carry forward.</p>

		<p>specifications, shall be submitted with each electrical permit application and in an electronic format approved by the authority having jurisdiction.</p> <p>Construction documents shall be submitted for work that includes the following:</p> <ul style="list-style-type: none"> (a) permanent services or feeders of 400 amperes or over; temporary services of 600 amperes or over. (b) switches ((,)) and circuit breakers, <u>400 amperes and larger installed in ((and))</u> equipment rated 400 amperes or over; (c) any equipment operating at voltages exceeding 600; (d) services, feeders, and power supplies for emergency, legally required standby or fire pump systems; (e) proposed alteration or installation, the scope of which covers more than 5,000 square feet; (f) proposed alteration or installation which cannot be adequately described on the application form; (g) new or altered electrical installations in educational, institutional, and health or personal care occupancies as required in 296-46B-900(1); (3)(a), (b), (c), (e), & (g); and WAC 269-46B-900 Tables 900-1 and 900-2; and <p><i>Exception to (a) through (g): Plan review applications will not be accepted for installations in one- and two-family dwelling structures that can be adequately described on the over-the-counter application form.</i></p> <ul style="list-style-type: none"> (h) photovoltaic and other renewable energy systems. Submittals for these systems shall be as follows: <ul style="list-style-type: none"> (1) systems rated over 26 kW shall submit plans and specifications, including system layout and all system components at the time of application; (2) systems rated over ((7.7 kW)) <u>12 kW</u> shall submit plans and specifications, including system layout and all system components at the time of application; and (3) systems rated ((7.7 kW)) <u>12 kW and under shall provide a</u> one line drawing and manufacturer's installation requirements to the field inspector prior to the first cover inspection (i) <u>installation of new equipment or systems on a development site with three or more dwelling units or multiple buildings that are not regulated elsewhere in this section.</u> <p>(2) Fire Department Review. Electronic plans and specifications for fire alarm systems shall be submitted to SDCI. SDCI shall provide electronic plans to the Seattle Fire Department for review. See <i>Seattle Fire Code</i> Section 907 for required submittal information.</p>	<p>is found to be untrue.</p> <p>(B) Construction Documents.</p> <p>(1) General. In addition to the requirements of Section 80.51(A), construction documents, including plans and specifications, shall be submitted with each electrical plan review or photovoltaic system permit application and in an electronic format approved by the authority having jurisdiction.</p> <p>Construction documents shall be submitted for plan review for work that includes the following:</p> <ul style="list-style-type: none"> (a) permanent services or feeders of 400 amperes or over; temporary services of ((600))400 amperes or over. (b) switches, and circuit breakers, 400 amperes and larger installed in equipment rated 400 amperes or over; (c) any equipment operating at voltages exceeding 600; (d) services, feeders, and power supplies for emergency, legally required standby or fire pump systems; (e) proposed alteration or installation, the scope of which covers more than 5,000 square feet; (f) proposed alteration or installation which cannot be adequately described on the application form; (g) new or altered electrical installations in educational, institutional, and health or personal care occupancies as required in 296-46B-900(1); (3)(a), (b), (c), (e), & (g); and WAC 269-46B-900 Tables 900-1 and 900-2; and <p><i>Exception to (a) through (g): Plan review applications will not be accepted for installations in one- and two-family dwelling structures that can be adequately described on the over-the-counter application form.</i></p> <ul style="list-style-type: none"> (h) After 1/1/2025 photovoltaic and other renewable energy system ((s)) ((S)) submittals ((for these systems)) shall be as follows: <ul style="list-style-type: none"> (1) systems rated over 26 kW AC output shall submit plans and specifications, including system layout and all system components at the time of application (value-based fee); (2) systems rated 12 kW-26kW AC output shall submit plans and specifications, including system layout and all system components at the time of application (fixed fee); 	
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			<p>computation per Article 220;</p> <ul style="list-style-type: none"> (f) a complete project load summary to include existing loads as computed in accordance with <i>NEC</i> Article 220, and all added loads. Electrical calculations and lighting summaries may be submitted on separate computation sheets; (g) fault current calculations and the listed interrupting rating of all feeder and service equipment; (h) a key to all symbols used; (i) a luminaire schedule showing all pertinent information and include the <i>Seattle Energy Code</i> lighting power allowance form; and (j) any other information as may be required by the plans examiner. <p>(C) Incomplete Submittals. Plans shall be submitted in a manner that is organized to facilitate plan review. Plan sets not having the information and specifications required by 80.51(B) or not clearly organized are deemed to be incomplete submittals. Review time will be charged at the hourly rate established by the Seattle Fee Subtitle until a complete submittal is received.</p>	<ul style="list-style-type: none"> (2) feeder connections and if utilized, their equipment grounding conductors, (3) grounding of separately derived systems, (4) grounding electrode system and conductor size for service, transformers, and generators including main and system bonding jumpers, (5) equipment specifications and designations, including voltage, ampacity, disconnecting means and short-circuit current rating, (6) ground-fault equipment protection, when required, (7) transformer over-current protective device size(s), and (8) transformer primary and secondary voltage, and kilovolt-amperes (KVA) rating. (9) smoke control fans, identified (c) clear identification of all circuitry, including but not limited to: circuit numbers, wire sizes, insulation types, conduit sizes and types; (d) elevators used as an accessible means of egress element and clearly identified as such; (e) a complete set of switchboard and panel schedules. These shall include all load calculations and demand factors used for computation per Article 220; (f) a complete project load summary to include existing loads as computed in accordance with <i>NEC</i> Article 220, and all added loads. Electrical calculations and lighting summaries may be submitted on separate computation sheets; (g) fault current calculations and the listed interrupting rating of all feeder and service equipment; (h) a key to all symbols used; (i) a luminaire schedule showing all pertinent information and include the <i>Seattle Energy Code</i> lighting power allowance form; and (j) any other information as may be required by the plans examiner. <p>(C) Incomplete Submittals. Plans shall be submitted in a manner that is organized to facilitate plan review. Plan sets not having the information and specifications required by 80.51(B) or not clearly organized are</p>	
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				deemed to be incomplete submittals. Review time will be charged at the hourly rate established by the Seattle Fee Subtitle until a complete submittal is received.	
S	80.52	Application Review and Permit Issuance	<p>(A) Issuance. The application and construction documents shall be reviewed by the authority having jurisdiction. The construction documents may be reviewed by other departments of the City to ascertain compliance with the laws and ordinances under their jurisdiction.</p> <p>(1) Issuance of Permit. A permit shall be issued to the applicant who becomes the permit holder if the authority having jurisdiction finds the following:</p> <ol style="list-style-type: none"> 1. The work as described in an application for permit and the construction documents conform to the requirements of this <i>Code</i> and other applicable laws and ordinances; and 2. The fees specified in <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees, have been paid. <p><i>Exception No. 1: The authority having jurisdiction may issue a permit for the installation of part of the electrical system of a building or structure before complete plans for the whole building or structure have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this Code. Holders of such permits may proceed at their own risk without assurance that the permit for the entire building or structure will be granted.</i></p> <p><i>Exception No. 2: A permit may be issued for work to commence prior to the approval of plans, if such approval is delayed beyond 10 working days after the plans have been submitted for examination. The holders of such permits may proceed at their own risk, with the understanding that any work undertaken prior to approval of plans shall be done in accordance with the provisions of this Code and in accordance with the plans as subsequently approved.</i></p> <p>Informational Note: Exception No. 2 refers to what is commonly called, by the Department of Construction and Inspections, a “Get Started Permit.”</p> <p>(2) Compliance with Approved Construction Documents. When issuing a permit, the authority having jurisdiction shall endorse the permit in writing and endorse in writing or stamp the plans “APPROVED.” Approved plans and permits shall not be changed, modified, or altered without authorization from the authority having jurisdiction, and all work shall be done in accordance with the approved plans, except as the authority having jurisdiction may require during field inspection to correct errors or omissions.</p> <p>(3) Revisions to the Permit. When changes to the approved work are proposed during construction, approval of the authority having jurisdiction shall be obtained prior to making the changes. The authority having jurisdiction may approve minor changes to the</p>	<p>(A) Issuance. The application and construction documents shall be reviewed by the authority having jurisdiction. The construction documents may be reviewed by other departments of the City to ascertain compliance with the laws and ordinances under their jurisdiction.</p> <p>(1) Issuance of Permit. A permit shall be issued to the applicant who becomes the permit holder if the authority having jurisdiction finds the following:</p> <ol style="list-style-type: none"> 1. The work as described in an application for permit and the construction documents conform to the requirements of this <i>Code</i> and other applicable laws and ordinances; and 2. The fees specified in <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees, have been paid. <p><i>Exception No. 1: The authority having jurisdiction may issue a permit for the installation of part of the electrical system of a building or structure before complete plans for the whole building or structure have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this Code. Holders of such permits may proceed at their own risk without assurance that the permit for the entire building or structure will be granted.</i></p> <p><i>Exception No. 2: A permit may be issued for work to commence prior to the approval of plans, if such approval is delayed beyond 10 working days after the plans have been submitted for examination. The holders of such permits may proceed at their own risk, with the understanding that any work undertaken prior to approval of plans shall be done in accordance with the provisions of this Code and in accordance with the plans as subsequently approved.</i></p> <p>Informational Note: Exception No. 2 refers to what is commonly called, by the Department of Construction and Inspections, a “Get Started Permit.”</p> <p>(2) Compliance with Approved Construction Documents. When issuing a permit, the authority having jurisdiction shall endorse the permit in writing and endorse in writing or stamp the plans “APPROVED.” Approved plans and permits shall not be changed, modified, or altered without authorization from the authority having jurisdiction, and all work shall be done in accordance with the approved</p>	<p>No WAC amendment.</p> <p>Seattle proposes:</p> <p>Adding language that always requires posting of the permit on the project site.</p> <p>Requires job-site construction documents to be printed in color.</p> <p>5/9/2024 Committee: Approve edits as written</p>

			<p>plans for work that does not reduce the fire and life safety of the structure. The authority having jurisdiction shall determine if it is necessary to revise the approved construction documents to describe the changes.</p> <p>If revised plans are required, changes shall be submitted to and approved by the authority having jurisdiction, accompanied by fees specified in the <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees prior to occupancy. All substitutions and changes shall conform to the requirements of this <i>Code</i> and other pertinent laws and ordinances.</p> <p>(4) Requirement for License. No electrical permit shall be issued to an applicant who is engaging in, conducting, or carrying on the business of installing wires or equipment to convey electric current or of installing apparatus to be operated by electric current unless the applicant possesses a valid State of Washington license as required by RCW 19.28. The licensed installer responsible for the work shall be identified on the electrical permit.</p> <p><i>Exception: Persons not possessing a license may obtain an electrical permit in order to do electrical work at a residence, farm, place of business, or other property that they own as described in RCW 19.28.261.</i></p> <p>(5) Cancellation of Permit Application. Applications may be cancelled if no permit is issued by the earlier of the following:</p> <ol style="list-style-type: none"> (1) Twelve months following the date of application; or (2) Sixty days from the date of written notice that the permit is ready to issue. <p>The authority having jurisdiction shall notify the applicant in writing at least 30 days before the application is cancelled. The notice shall specify a date by which a request for extension must be submitted in order to avoid cancellation. The date shall be at least two weeks prior to the date on which the application will be cancelled.</p> <p><i>Exception: Notwithstanding other provisions of this Code, applications may be extended where issuance of the permit is delayed by litigation, preparation of environmental impact statements, appeals, strikes, or other causes related to the application that are beyond the applicant's control.</i></p> <p>(6) Extensions Prior to Permit Issuance. At the discretion of the authority having jurisdiction, applications for projects that require more than 12 months to review and approve may be extended for a period that provides reasonable time to complete the review and approval, but in no case longer than 24 months from the date of the original application. No application may be extended more than once. After the application is cancelled, the applicant shall submit a new application and pay a new fee to restart the permit process.</p>	<p>plans, except as the authority having jurisdiction may require during field inspection to correct errors or omissions.</p> <p>(3) Revisions to the Permit. When changes to the approved work are proposed during construction, approval of the authority having jurisdiction shall be obtained prior to making the changes. The authority having jurisdiction may approve minor changes to the plans for work that does not reduce the fire and life safety of the structure. The authority having jurisdiction shall determine if it is necessary to revise the approved construction documents to describe the changes.</p> <p>If revised plans are required, changes shall be submitted to and approved by the authority having jurisdiction, accompanied by fees specified in the <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees prior to occupancy. All substitutions and changes shall conform to the requirements of this <i>Code</i> and other pertinent laws and ordinances.</p> <p>(4) Requirement for License. No electrical permit shall be issued to an applicant who is engaging in, conducting, or carrying on the business of installing wires or equipment to convey electric current or of installing apparatus to be operated by electric current unless the applicant possesses a valid State of Washington license as required by RCW 19.28. The licensed installer responsible for the work shall be identified on the electrical permit.</p> <p><i>Exception: Persons not possessing a license may obtain an electrical permit in order to do electrical work at a residence, farm, place of business, or other property that they own as described in RCW 19.28.261.</i></p> <p>(5) Cancellation of Permit Application. Applications may be cancelled if no permit is issued by the earlier of the following:</p> <ol style="list-style-type: none"> (1) Twelve months following the date of application; or (2) Sixty days from the date of written notice that the permit is ready to issue. <p>The authority having jurisdiction shall notify the applicant in writing at least 30 days before the application is cancelled. The notice shall specify a date by which a request for extension must be submitted in order to avoid cancellation. The date shall be at least two weeks prior to the date on which the application will be cancelled.</p> <p><i>Exception: Notwithstanding other provisions of this Code, applications may be extended where issuance of the permit is delayed by litigation, preparation of environmental impact statements, appeals, strikes, or</i></p>	
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The issuance of a permit or approval of construction documents shall:</p> <ol style="list-style-type: none"> (1) not be construed to be a permit for, or an approval of, any violation of any of the provisions of this Code or other pertinent laws or ordinances; (2) not prevent the authority having jurisdiction from later requiring the correction of errors in the plans or from preventing building operations being carried on thereunder when in violation of this Code or of other pertinent laws and ordinances of the City; (3) not prevent the authority having jurisdiction from requiring correction of conditions found to be in violation of this Code or any other ordinance of the City; and (4) not be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the authority having jurisdiction or other administrative authority requiring the correction of any such conditions. <p>(D) Expiration and Renewal of Issued Permits.</p> <ol style="list-style-type: none"> (1) Expiration of Permits. Authority to do the work authorized by a permit expires 12 months from the date of issuance. <p><i>Exception No. 1: Initial permits for major construction projects that require more than 1 year to complete, according to a construction schedule submitted by the applicant, may be issued for a period that provides reasonable time to complete the work but in no case longer than 3 years.</i></p> <p><i>Exception No. 2: Permits that expire in less than 1 year may be issued where the authority having jurisdiction determines a shorter period is appropriate based on the scope of work or otherwise limited by this Code.</i></p> <p>Informational Note: See Article 590 Temporary Installations.</p> <ol style="list-style-type: none"> (2) Renewal. Permits may be renewed and renewed permits may be further renewed by the authority having jurisdiction provided the following conditions 	<p><i>other causes related to the application that are beyond the applicant's control.</i></p> <ol style="list-style-type: none"> (6) Extensions Prior to Permit Issuance. At the discretion of the authority having jurisdiction, applications for projects that require more than 12 months to review and approve may be extended for a period that provides reasonable time to complete the review and approval, but in no case longer than 24 months from the date of the original application. No application may be extended more than once. After the application is cancelled, the applicant shall submit a new application and pay a new fee to restart the permit process. <p><i>Exception: Notwithstanding other provisions of this Code, applications may be extended where issuance of the permit is delayed by litigation, preparation of environmental impact statements, appeals, strikes, or other causes related to the application that are beyond the applicant's control, or while the applicant is making progress toward issuance of a master use permit.</i></p> <p>(B) Retention of Plans and Permits. The electronically approved construction documents shall be retained by the authority having jurisdiction. The permit holder shall make a printed copy of the approved construction drawings available on the job site for use by inspectors while work is authorized to occur. Construction Drawings provided for the use of inspectors on the job site shall be in color and shall have minimum dimensions of 11" x 17" for photovoltaic installations and 24" x 30" or larger as required to be readable for all other installations. A copy of the electrical permit shall be posted in a conspicuous location on the premises at all times during the course of the installation or work.</p> <p>(C) Validity. The issuance of a permit or approval of construction documents shall:</p> <ol style="list-style-type: none"> (1) not be construed to be a permit for, or an approval of, any violation of any of the provisions of this Code or other pertinent laws or ordinances; (2) not prevent the authority having jurisdiction from later requiring the correction of errors in the plans or from preventing building operations being carried on thereunder when in violation of this Code or of other pertinent laws and ordinances of the City; (3) not prevent the authority having jurisdiction from requiring correction of conditions found to be in violation of this Code or any other ordinance of the City; and (4) not be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the authority having jurisdiction or other administrative 	
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		<p>are met:</p> <ol style="list-style-type: none"> (1) Application for renewal shall be made within the 30-day period immediately preceding the date of expiration of the permit; (2) The work authorized by the permit has been started and is progressing at a rate approved by the authority having jurisdiction; (3) If an application for renewal is made either more than one year after the effective date of a new or revised edition of the Electrical Code, the permit shall not be renewed unless: <ol style="list-style-type: none"> (1) The authority having jurisdiction determines that the permit complies, or is modified to comply, with the Electrical code or codes in effect on the date of application renewal; (2) The work authorized by the permit is substantially underway and progressing at a rate approved by the authority having jurisdiction. “Substantially underway” means that normally required inspections have been approved or work is being completed and inspected on a continuing basis; or (3) Commencement or completion of the work authorized by the permit is delayed by litigation, appeals, strikes, or other extraordinary circumstances related to the work authorized by the permit, beyond the permit holder’s control; and (4) If the project has had an associated discretionary Land Use review, and the land use approval has not expired. <p>(3) Re-establishment of Expired Permits. A new permit shall be required to complete work where a permit expired and work remains to be completed.</p> <p><i>Exception: A permit which has been expired for less than one year may be reestablished upon approval of the authority having jurisdiction provided it complies with Items (1) and (2) of Section 80.52(D)(2) above.</i></p> <p>(E) Revocation of Electrical Permits. Whenever the authority having jurisdiction determines there are grounds for revoking a permit issued under the provisions of this Code, the authority having jurisdiction may issue a notice of revocation.</p> <ol style="list-style-type: none"> (1) Standards for Revocation. A permit may be revoked if: <ol style="list-style-type: none"> (a) This Code or the permit has been or is being violated and issuance of a notice of violation or stop work order has been or would be ineffective to secure compliance because of circumstances related to the violation; (b) The permit was obtained with false or misleading 	<p>authority requiring the correction of any such conditions.</p> <p>(D) Expiration and Renewal of Issued Permits.</p> <ol style="list-style-type: none"> (1) Expiration of Permits. Authority to do the work authorized by a permit expires 12 months from the date of issuance. <p><i>Exception No. 1: Initial permits for major construction projects that require more than 1 year to complete, according to a construction schedule submitted by the applicant, may be issued for a period that provides reasonable time to complete the work but in no case longer than 3 years.</i></p> <p><i>Exception No. 2: Permits that expire in less than 1 year may be issued where the authority having jurisdiction determines a shorter period is appropriate based on the scope of work or otherwise limited by this Code.</i></p> <p>Informational Note: See Article 590 Temporary Installations.</p> (2) Renewal. Permits may be renewed and renewed permits may be further renewed by the authority having jurisdiction provided the following conditions are met: <ol style="list-style-type: none"> (1) Application for renewal shall be made within the 30-day period immediately preceding the date of expiration of the permit; (2) The work authorized by the permit has been started and is progressing at a rate approved by the authority having jurisdiction; (3) If an application for renewal is made either more than one year after the effective date of a new or revised edition of the Electrical Code, the permit shall not be renewed unless: <ol style="list-style-type: none"> (1) The authority having jurisdiction determines that the permit complies, or is modified to comply, with the Electrical code or codes in effect on the date of application renewal; (2) The work authorized by the permit is substantially underway and progressing at a rate approved by the authority having jurisdiction. “Substantially underway” means that normally required inspections have been approved or work is being completed and inspected on a continuing basis; or (3) Commencement or completion of the work authorized by the permit is 	
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		<p>information; or</p> <p>(c) The permit was issued in violation of any ordinance or regulation or provision of this <i>Code</i>.</p> <p>(d) The permit was issued in error.</p> <p>(2) Notice of Revocation. Whenever the authority having jurisdiction determines there are grounds for revoking a permit, a notice of revocation may be issued. The notice of revocation shall identify the reason for the proposed revocation, including the violations, the conditions violated, and any alleged false or misleading information provided.</p> <p>(a) <i>Serving Notice of Revocation.</i> The notice of revocation shall be served upon the owner of the property, the owner's authorized agent, or the person designated by the owner or agent to do the work authorized by a permit. The notice of revocation shall be served by personal service or first-class mail addressed to the last known address of such person, or if no address is available after reasonable inquiry, the notice may be posted in a conspicuous place on the premises. The notice may also be posted if served by personal service or first-class mail.</p> <p>For purposes of this Section, service is complete at the time of personal service, or if mailed, 3 days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday, or City holiday, the period runs until 5 p.m. on the next business day.</p> <p>(b) <i>Effective Date of Revocation.</i> The authority having jurisdiction shall identify in the notice of revocation a date certain on which the revocation will take effect unless review before the authority having jurisdiction is requested and pursued pursuant to Section 80.52(E)(3).</p> <p>(3) Review by the Authority Having Jurisdiction for Notice of Revocation.</p> <p>(a) <i>Requesting a Review.</i> Any person aggrieved by a notice of revocation may obtain a review by making a request in writing to the authority having jurisdiction within 3 business days of the date of service of the notice of revocation.</p> <p>The review shall occur within 5 business days after receipt by the authority having jurisdiction of the request for review.</p> <p>(b) <i>Information Reviewed.</i> Any person affected by the notice of revocation may submit additional information to the authority having jurisdiction for consideration as part of the review at any time prior to the review. The review will be made by a representative of the authority having jurisdiction who will review all</p>	<p>delayed by litigation, appeals, strikes, or other extraordinary circumstances related to the work authorized by the permit, beyond the permit holder's control; and</p> <p>(4) If the project has had an associated discretionary Land Use review, and the land use approval has not expired.</p> <p>(3) Re-establishment of Expired Permits. A new permit shall be required to complete work where a permit expired and work remains to be completed.</p> <p><i>Exception: A permit which has been expired for less than one year may be reestablished upon approval of the authority having jurisdiction provided it complies with Items (1) and (2) of Section 80.52(D)(2) above.</i></p> <p>(E) Revocation of Electrical Permits. Whenever the authority having jurisdiction determines there are grounds for revoking a permit issued under the provisions of this <i>Code</i>, the authority having jurisdiction may issue a notice of revocation.</p> <p>(1) Standards for Revocation. A permit may be revoked if:</p> <p>(a) This <i>Code</i> or the permit has been or is being violated and issuance of a notice of violation or stop work order has been or would be ineffective to secure compliance because of circumstances related to the violation;</p> <p>(b) The permit was obtained with false or misleading information; or</p> <p>(c) The permit was issued in violation of any ordinance or regulation or provision of this <i>Code</i>.</p> <p>(d) The permit was issued in error.</p> <p>(2) Notice of Revocation. Whenever the authority having jurisdiction determines there are grounds for revoking a permit, a notice of revocation may be issued. The notice of revocation shall identify the reason for the proposed revocation, including the violations, the conditions violated, and any alleged false or misleading information provided.</p> <p>(a) <i>Serving Notice of Revocation.</i> The notice of revocation shall be served upon the owner of the property, the owner's authorized agent, or the person designated by the owner or agent to do the work authorized by a permit. The notice of revocation shall be served by personal service or first-class mail addressed to the last known address of such person, or if no</p>	
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		<p>additional information received and may also request a site visit.</p> <p>(c) <i>After the Review.</i> After the review, the authority having jurisdiction may:</p> <ol style="list-style-type: none"> (1) sustain the notice of revocation and set or modify the date the revocation will take effect; or (2) withdraw the notice of revocation; or (3) modify the notice of revocation and set or modify the date the revocation will take effect; or (4) continue the review to a date certain. <p>(d) <i>Decision of the Authority Having Jurisdiction.</i> The authority having jurisdiction shall issue an order containing the decision within 10 days after the review and shall cause the same to be sent by first class mail to the person or persons requesting the review, any other person on whom the notice of revocation was served, and any other person who requested a copy before issuance of the order. The order of the authority having jurisdiction is the final order of the City, and the City and all parties shall be bound by the order.</p> <p>(F) Permit for Temporary Installations. The authority having jurisdiction may issue a nonrenewable permit for temporary electrical installations for use during the construction of buildings or for events such as carnivals, conventions, festivals, fairs, the holding of religious services, and temporary street lighting if life or property will not be jeopardized.</p> <p>Permission to use a temporary installation shall be granted for no longer than 12 months, except that a permit for a temporary installation to be used for the construction of a building may be issued for the necessary period of construction. When temporary lighting is over the street area or public rights-of-way, proper authority for use of the rights-of-way shall first be obtained from the Seattle Department of Transportation. All temporary installations shall comply with all other requirements of this <i>Code</i>.</p>	<p>address is available after reasonable inquiry, the notice may be posted in a conspicuous place on the premises. The notice may also be posted if served by personal service or first-class mail.</p> <p>For purposes of this Section, service is complete at the time of personal service, or if mailed, 3 days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday, or City holiday, the period runs until 5 p.m. on the next business day.</p> <p>(b) <i>Effective Date of Revocation.</i> The authority having jurisdiction shall identify in the notice of revocation a date certain on which the revocation will take effect unless review before the authority having jurisdiction is requested and pursued pursuant to Section 80.52(E)(3).</p> <p>(3) Review by the Authority Having Jurisdiction for Notice of Revocation.</p> <p>(a) <i>Requesting a Review.</i> Any person aggrieved by a notice of revocation may obtain a review by making a request in writing to the authority having jurisdiction within 3 business days of the date of service of the notice of revocation.</p> <p>The review shall occur within 5 business days after receipt by the authority having jurisdiction of the request for review.</p> <p>(b) <i>Information Reviewed.</i> Any person affected by the notice of revocation may submit additional information to the authority having jurisdiction for consideration as part of the review at any time prior to the review. The review will be made by a representative of the authority having jurisdiction who will review all additional information received and may also request a site visit.</p> <p>(c) <i>After the Review.</i> After the review, the authority having jurisdiction may:</p> <ol style="list-style-type: none"> (1) sustain the notice of revocation and set or modify the date the revocation will take effect; or (2) withdraw the notice of revocation; or (3) modify the notice of revocation and set or modify the date the revocation will take effect; or (4) continue the review to a date certain. <p>(d) <i>Decision of the Authority Having Jurisdiction.</i> The authority having</p>	
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				<p>jurisdiction shall issue an order containing the decision within 10 days after the review and shall cause the same to be sent by first class mail to the person or persons requesting the review, any other person on whom the notice of revocation was served, and any other person who requested a copy before issuance of the order. The order of the authority having jurisdiction is the final order of the City, and the City and all parties shall be bound by the order.</p> <p>(F) Permit for Temporary Installations. The authority having jurisdiction may issue a nonrenewable permit for temporary electrical installations for use during the construction of buildings or for events such as carnivals, conventions, festivals, fairs, the holding of religious services, and temporary street lighting if life or property will not be jeopardized.</p> <p>Permission to use a temporary installation shall be granted for no longer than 12 months, except that a permit for a temporary installation to be used for the construction of a building may be issued for the necessary period of construction. When temporary lighting is over the street area or public rights-of-way, proper authority for use of the rights-of-way shall first be obtained from the Seattle Department of Transportation. All temporary installations shall comply with all other requirements of this <i>Code</i>.</p>	
S	80.54	Inspections	<p>(A) General. All construction or work for which a permit is required is subject to inspection by the authority having jurisdiction. In addition to the inspections specified in Article 80, the authority having jurisdiction may make or require any other inspections of any electrical work to ascertain compliance with the provisions of this <i>Code</i> and other laws and ordinances that are enforced by the authority having jurisdiction.</p> <p>(B) Connection of Electric Installations. It shall be unlawful to connect or to allow the connection of any electrical installations, extensions thereof, or electrical equipment to the electric current until the work is inspected and approved by the authority having jurisdiction.</p> <p>(C) Inspection Requests. The owner of the property, the owner's authorized agent, or the person designated by the owner or agent to do the work authorized by a permit shall notify the authority having jurisdiction that work is ready for inspection as specified in this section and <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees. Where a permit has been issued to a licensed contractor, it shall be the duty of the contractor to notify the authority having jurisdiction that work requiring inspection is ready for inspection.</p> <p>The permit holder and the person requesting any inspections required by this <i>Code</i> shall provide access to and means for proper inspection of the work. It shall be the duty of the permit holder to cause the work to be accessible and exposed for inspection purposes until the work receives final approval by the authority having</p>	<p>(J) General. All construction or work for which a permit is required is subject to inspection by the authority having jurisdiction. In addition to the inspections specified in Article 80, the authority having jurisdiction may make or require any other inspections of any electrical work to ascertain compliance with the provisions of this <i>Code</i> and other laws and ordinances that are enforced by the authority having jurisdiction.</p> <p>(K) Connection of Electric Installations. It shall be unlawful to connect or to allow the connection of any electrical installations, extensions thereof, or electrical equipment to the electric current until the work is inspected and approved by the authority having jurisdiction.</p> <p>(L) Inspection Requests. The owner of the property, the owner's authorized agent, or the person designated by the owner or agent to do the work authorized by a permit shall notify the authority having jurisdiction that work is ready for inspection as specified in this section and <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees. Where a permit has been issued to a licensed contractor, it shall be the duty of the contractor to notify the authority having jurisdiction that work requiring inspection is ready for inspection.</p>	<p>No WAC amendments.</p> <p>Seattle proposes: Adding language requiring a cover inspection for EV. EV equipment and components are required to be inspected prior to their installation on the roof. SDCI electrical inspectors do not inspect the actual roof installation. Only the components.</p> <p>Adding language requiring that correction notices be corrected and a reinspection to occur within 14 days.</p> <p>5/9/2024 Committee: adopt edits as written.</p>

		<p>jurisdiction. Neither the authority having jurisdiction nor the City shall be liable for any expense incurred in the required removal or replacement of any material to allow inspection.</p> <p>(D) Inspection Record. Work requiring an electrical permit shall not be commenced until the permit holder or the permit holder's agent has posted an inspection record in a conspicuous place on the premises and in a position which allows the authority having jurisdiction to conveniently make the required entries thereon regarding inspection of the work. This record shall be maintained in such position by the permit holder or the permit holder's agent until final approval has been granted by the authority having jurisdiction and the serving utility has made the connection to the electric current.</p> <p>(E) Approvals Required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the approval of the authority having jurisdiction. Approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in Section 80.54(F) below.</p> <p>Approval as a result of an inspection is not an approval of any violation of the provisions of this <i>Code</i> or of other pertinent laws and ordinances of the City. Inspections presuming to give authority to violate or cancel the provisions of this <i>Code</i> or of other pertinent laws and ordinances of the City are not valid.</p> <p>(F) Required Inspections.</p> <p>(1) Cover Inspection. The authority having jurisdiction is authorized to conduct cover inspections when the following work has been completed:</p> <ul style="list-style-type: none"> (a) All piping, ducts, plumbing, and like installations of other trades which are liable to interfere or run in close proximity to the electrical installation are permanently in place and inspected, but prior to any work to cover or conceal any installation of electrical equipment; (b) Electrical equipment grounding (boxes, equipment, conductors, and provisions for grounding receptacles, etc.) for all systems shall be completely made-up; and (c) For conduit systems, after all conduit has been installed and properly secured to the structure. <p>(2) Final Inspection. The authority having jurisdiction is authorized to conduct a final inspection after all wiring has been completed and all permanent fixtures such as switches, outlet receptacles, plates, electric hot-water tanks, lighting fixtures and all other equipment have been properly installed. The permit holder shall call for a final inspection when the work described on the permit has been completed. Failure to obtain a final inspection is a violation of Section 80.13 of this <i>Code</i>.</p> <p>(G) Other Inspections. In addition to the required inspections specified in Section 80.54(E), the authority</p>	<p>The permit holder and the person requesting any inspections required by this <i>Code</i> shall provide access to and means for proper inspection of the work. It shall be the duty of the permit holder to cause the work to be accessible and exposed for inspection purposes until the work receives final approval by the authority having jurisdiction. Neither the authority having jurisdiction nor the City shall be liable for any expense incurred in the required removal or replacement of any material to allow inspection.</p> <p>(M) Inspection Record. Work requiring an electrical permit shall not be commenced until the permit holder or the permit holder's agent has posted an inspection record in a conspicuous place on the premises and in a position which allows the authority having jurisdiction to conveniently make the required entries thereon regarding inspection of the work. This record shall be maintained in such position by the permit holder or the permit holder's agent until final approval has been granted by the authority having jurisdiction and the serving utility has made the connection to the electric current.</p> <p>(N) Approvals Required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the approval of the authority having jurisdiction. Approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in Section 80.54(F) below.</p> <p>Approval as a result of an inspection is not an approval of any violation of the provisions of this <i>Code</i> or of other pertinent laws and ordinances of the City. Inspections presuming to give authority to violate or cancel the provisions of this <i>Code</i> or of other pertinent laws and ordinances of the City are not valid.</p> <p>(O) Required Inspections.</p> <p>(1) Cover Inspection. The authority having jurisdiction is authorized to conduct cover inspections when the following work has been completed:</p> <ul style="list-style-type: none"> (a) All piping, ducts, plumbing, and like installations of other trades which are liable to interfere or run in close proximity to the electrical installation are permanently in place and inspected, but prior to any work to cover or conceal any installation of electrical equipment; (b) Electrical equipment grounding (boxes, equipment, conductors, and provisions for grounding receptacles, etc.) for all systems shall be completely made-up; and (c) For conduit systems, after all conduit has been installed and properly secured to the structure. (d) For PV systems, a cover inspection shall be required for any rooftop equipment before 	
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		<p>having jurisdiction is authorized to conduct or require any other inspections of any construction work to ascertain compliance with the provisions of this <i>Code</i> and other laws enforced by the authority having jurisdiction.</p> <p>Where work, for which any permit or approval is required, is commenced or performed prior to making formal application and receiving the authority having jurisdiction's permission to proceed, the authority having jurisdiction may make a special investigation inspection before a permit may be issued for the work. Where a special investigation is made, a special investigation fee may be assessed in accordance with <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees.</p> <p>If work that requires a permit or approval is commenced or performed prior to making formal application and receiving the authority having jurisdiction's permission to proceed, the authority having jurisdiction may make a special investigation inspection before a permit is issued for the work. If a special investigation is made, a special investigation fee may be assessed in accordance with <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees.</p> <p>(H) Corrections: Inspection corrections shall be completed and reinspected within 14 days of notice or reinspection fees may be applied.</p> <p>(I) Reinspections. The authority having jurisdiction may reinspect when work is not complete, corrections are not made, approved plans are not readily available to the inspector, access on the date for which inspection is requested is not provided, or work has deviated from approved construction documents.</p> <p>For the purpose of determining compliance with Section ((80.4(C))) <u>80.4(D)</u>, Maintenance, the authority having jurisdiction or the fire chief may cause any structure to be reinspected.</p> <p>The authority having jurisdiction may assess a reinspection fee as set forth in <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees for any action listed above for which reinspection may be required.</p> <p>In instances where reinspection fees have been assessed, no additional inspection of the work shall be performed until the required fees have been paid.</p>	<p style="color: red;">installation to verify suitability. Equipment must be on site at grade level for inspection.</p> <p>(2) Final Inspection. The authority having jurisdiction is authorized to conduct a final inspection after all wiring has been completed and all permanent fixtures such as switches, outlet receptacles, plates, electric hot-water tanks, lighting fixtures and all other equipment have been properly installed. The permit holder shall call for a final inspection when the work described on the permit has been completed. Failure to obtain a final inspection is a violation of Section 80.13 of this <i>Code</i>.</p> <p>(P) Other Inspections. In addition to the required inspections specified in Section 80.54(E), the authority having jurisdiction is authorized to conduct or require any other inspections of any construction work to ascertain compliance with the provisions of this <i>Code</i> and other laws enforced by the authority having jurisdiction.</p> <p>Where work, for which any permit or approval is required, is commenced or performed prior to making formal application and receiving the authority having jurisdiction's permission to proceed, the authority having jurisdiction may make a special investigation inspection before a permit may be issued for the work. Where a special investigation is made, a special investigation fee may be assessed in accordance with <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees.</p> <p>If work that requires a permit or approval is commenced or performed prior to making formal application and receiving the authority having jurisdiction's permission to proceed, the authority having jurisdiction may make a special investigation inspection before a permit is issued for the work. If a special investigation is made, a special investigation fee may be assessed in accordance with <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees.</p> <p style="color: red;">(Q) Corrections: Inspection corrections shall be completed and reinspected within 14 days of notice or reinspection fees may be applied.</p> <p>(R) Reinspections. The authority having jurisdiction may reinspect when work is not complete, corrections are not made, approved plans are not readily available to the inspector, access on the date for which inspection is requested is not provided, or work has deviated from approved construction documents.</p> <p>For the purpose of determining compliance with Section ((80.4(C))) <u>80.4(D)</u>, Maintenance, the authority having jurisdiction or the fire chief may cause any structure to be reinspected.</p> <p>The authority having jurisdiction may assess a reinspection fee as set forth in <i>Seattle Municipal Code</i>, Title 22, Subtitle IX, Permit Fees for any action listed above for which reinspection may be required.</p>	
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Article 90 Introduction					
S	90	Introduction	<p>(90.1 Purpose.</p> <p>(A) Practical Safeguarding. The purpose of this Code is the practical safeguarding of persons and property from hazards arising from the use of electricity. This Code is not intended as a design specification or an instruction manual for untrained persons.</p> <p>(B) Adequacy. This Code contains provisions that are considered necessary for safety. Compliance therewith and proper maintenance result in an installation that is essentially free from hazard but not necessarily efficient, convenient, or adequate for good service or future expansion of electrical use.</p> <p>Informational Note: Hazards often occur because of overloading of wiring systems by methods or usage not in conformity with this Code. This occurs because initial wiring did not provide for increases in the use of electricity. An initial adequate installation and reasonable provisions for system changes provide for future increases in the use of electricity.</p> <p>(C) Relation to Other International Standards. The requirements in this Code address the fundamental principles of protection for safety contained in Section 131 of International Electrotechnical Commission Standard 60364-1, Electrical Installations of Buildings.</p> <p>Informational Note: IEC 60364-1, Section 131, contains fundamental principles of protection for safety that encompass protection against electric shock, protection against thermal effects, protection against overcurrent, protection against fault currents, and protection against overvoltage. All of these potential hazards are addressed by the requirements in this Code.</p> <p>90.2 Scope.</p> <p>Δ (A) Covered. This Code covers the installation and removal of electrical conductors, equipment, and raceways; signaling and communications conductors, equipment, and raceways; and optical fiber cables for the following:</p> <ul style="list-style-type: none"> (1) Public and private premises, including buildings, structures, mobile homes, recreational vehicles, and floating buildings (2) Yards, lots, parking lots, carnivals, and industrial substations (3) Installations of conductors and equipment that connect to the supply of electricity (4) Installations used by the electric utility, such as office buildings, warehouses, garages, machine shops, and recreational buildings, that are not an integral part of a generating plant, substation, or control center 	Article 90 is not adopted	No WAC Section. Seattle proposes: Replace strike through 2020 SEC text with a simple statement saying that the article is not adopted. This will help us to streamline our Quick Reference document we post with Seattle changes to the 2023 NEC.

			<p>(5) Installations supplying shore power to ships and watercraft in marinas and boatyards, including monitoring of leakage current</p> <p>(6) Installations used to export electric power from vehicles to premises wiring or for bidirectional current flow</p> <p>(B) Not Covered. This Code does not cover the following:</p> <p>(1) Installations in ships, watercraft other than floating buildings, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles. Informational Note: Although the scope of this Code indicates that the Code does not cover installations in ships, portions of this Code are incorporated by reference into Title 46, Code of Federal Regulations, Parts 110–113.</p> <p>(2) Installations underground in mines and self-propelled mobile surface mining machinery and its attendant electrical trailing cable</p> <p>(3) Installations of railways for generation, transformation, transmission, energy storage, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communications purposes</p> <p>(4) Installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations</p> <p>(5) Installations under the exclusive control of an electric utility where such installations</p> <ul style="list-style-type: none"> a. Consist of service drops or service laterals, and associated metering, or b. Are on property owned or leased by the electric utility for the purpose of communications, metering, generation, control, transformation, transmission, energy storage, or distribution of electric energy, or c. Are located in legally established easements or rights-of-way, or d. Are located by other written agreements either designated by or recognized by public service commissions, utility commissions, or other regulatory agencies having jurisdiction for such installations. These written agreements shall be limited to installations for the purpose of communications, metering, generation, control, transformation, transmission, energy storage, or distribution of electric energy where legally established easements or rights-of-way cannot be obtained. These installations shall be limited to federal lands, Native American reservations through the U.S. Department of the Interior Bureau of Indian Affairs, military bases, lands controlled by port authorities and state agencies and departments, and lands owned by railroads. 		
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Article 100 Definitions					
S	100	Definitions	<p>Authority Having Jurisdiction (AHJ). ((An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure. (CMP-1))) The Department of Construction and Inspections is authorized to administer and enforce this Code and shall be known throughout this Code as the <i>authority having jurisdiction</i>. The Department of Construction and Inspections is under the administrative and operational control of the Director.</p> <p>((Informational Note: The phrase “authority having jurisdiction,” or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief, fire marshal, chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.))</p>		<p>No WAC amendment.</p> <p>Keeping 2020 amendments. Overlay on 2023 NEC.</p>
S	100	Definitions	Basement	<p>Basement: <u>The portion of a building that is partly or completely below grade plane. A basement will be considered as a story above grade plane and not a basement where the finished surface of the floor above the basement is either more than six feet above grade plane, more than six feet above the finished ground level for more than 50 percent of the total building perimeter, or more than 12 feet above the finished ground level at any point.</u></p>	<p>WAC amendment.</p> <p>Seattle Proposes: Adopting definition for basement.</p>
				<p>Household appliance" means utilization equipment installed in a dwelling unit that is built in standardized sizes or types and is installed or connected as a unit to perform one or more household functions such as food preparation, cooking, and cleaning. Includes appliances typically installed in a dwelling unit kitchen, clothes</p>	

				washing, drying, and water heating appliances, portable room air conditioning units and portable heaters, etc. Fixed electric space-heating equipment covered in NEC 424 (furnaces, baseboard and wall heaters, electric heat cable, etc.) and fixed air-conditioning/heat pump equipment (NEC 440) are not household appliances. Household appliance does not mean any utilization equipment that: (a) Supplies electrical power, other than Class 2, to other utilization equipment; or (b) Receives electrical power, other than Class 2, through other utilization equipment.	
W, S?	100	Definitions	Identification Plate	Identification Plate: A label suitable for the environment that is a printed or etched adhesive label approved by the department or a phenolic or metallic plate or other similar material engraved in block letters at least 1/4 inch high unless specifically required to be larger by this chapter, suitable for the environment and application. The letters and the background must be in contrasting colors. Screws, rivets, permanent adhesive, or methods specifically described in this chapter must be used to affix an identification plate to the equipment or enclosure.	WAC amendment Seattle proposes: Adopting definition for Identification plate to support Article 110.21. Internal committee approved including State of WA definition of identification plate in code on 3-26-2024. Supports 110.21. Remove yellow highlighted ? Is this something we need to address?
S	100	Definitions	Qualified Person. One who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved. (CMP-1) Informational Note: RCW 19.28.161 describes training and certification and RCW 19.28.261 describes when the person working with electrical equipment and installations may be exempt from the training and certification. ((Refer)) Also refer to NFPA 70E-2018, <i>Standard for Electrical Safety in the Workplace</i> , for electrical safety training requirements.	Qualified Person. One who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved. (CMP-1) Informational Note: RCW 19.28.161 describes training and certification and RCW 19.28.261 describes when the person working with electrical equipment and installations may be exempt from the training and certification. Also see ((te)) NFPA 70E-2021, <i>Standard for Electrical Safety in the Workplace</i> , for electrical safety training requirements.	No WAC amendment Seattle proposes: Keeping 2020 SEC amendments. Overlay on 2023 NEC language. Note: the date of NFPA 70E Standard for Electrical Safety in the Workplace has been updated from the 2018 version to the 2021 version.
S	100	Definitions	Service Point. The point of connection between the facilities of the serving utility and the premises wiring. For service point connection requirements, see Section 230.12. (CMP-10) Informational Note: The service point can be described as the point of demarcation between where the serving utility ends and the premises wiring begins. The serving utility generally specifies the location of the service point based on the conditions of service.	Service point. The point of connection between the facilities of the serving utility and the premises wiring. (CMP-10) Informational Note: The service point can be described as the point of demarcation between where the serving utility ends and the premises wiring begins. The serving utility generally specifies the location of the service point based on the conditions of service.	No WAC amendment Seattle proposes: Keeping 2020 SEC amendment. Overlay on 2023 NEC.
S	100	Definitions	Service Terminal Box. An approved box to be used exclusively for the connection of the utility distribution system to the consumer's service entrance conductors.	Service Terminal Box. An approved box to be used exclusively for the connection of the utility distribution system to the consumer's service entrance conductors.	No WAC amendment Not in NEC Seattle proposes: Keeping 2020 definition. Overlay on 2023 NEC.

S	100	Definitions	<p>Traffic Management System. A traffic management system provides signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock and may be comprised of the following components:</p> <p>(1) <u>Traffic illumination systems;</u></p> <p>(2) <u>Traffic signal systems;</u></p> <p>(3) <u>Traffic monitoring systems;</u></p> <p>(4) <u>The electrical service cabinet and all related components and equipment installed on the load side of the service cabinet supplying electrical power to the traffic management system; and</u></p> <p>(5) <u>Signalization system(s) necessary for the operation of a light rail system.</u></p>	<p>Traffic Management System. A traffic management system provides signalization for controlling vehicular traffic, pedestrian traffic, or rolling stock and may be comprised of the following components:</p> <p>(1) <u>Traffic illumination systems;</u></p> <p>(2) <u>Traffic signal systems;</u></p> <p>(3) <u>Traffic monitoring systems;</u></p> <p>(4) <u>The electrical service cabinet and all related components and equipment installed on the load side of the service cabinet supplying electrical power to the traffic management system; and</u></p> <p>(5) <u>Signalization system(s) necessary for the operation of a light rail system.</u></p>	<p>No WAC amendment Not in NEC</p> <p>Seattle proposes: Keeping 2020 amendments. Overlay on 2023 NEC.</p> <p>Fix formatting 4/3/2024 PGF: Done</p>
			<p>Unobstructed Egress. Unobstructed egress (as applied to NEC 110.26 (C)(2)(a)) means an egress path that allows a worker to travel to the exit from any other area in the room containing the equipment described in NEC 110.26 (C)(2) without having to pass through that equipment’s required working space.</p> <p><u>Informational Note: The definition for “egress” found in WAC 296-46B-100 is incorporated herein with edits.</u></p>	<p>Unobstructed Egress. Unobstructed egress (as applied to NEC 110.26 (C)(2)(a)) means an egress path that allows a worker to travel to the exit from any other area in the room containing the equipment described in NEC 110.26 (C)(2) without having to pass through that equipment’s required working space.</p> <p><u>Informational Note: The definition for “egress” found in WAC 296-46B-100 is incorporated herein with edits.</u></p>	<p>No WAC amendment Not in NEC</p> <p>Seattle proposes: Keeping 2020 SEC amendments. Overlay on 2023 NEC.</p>
S(New)	110.1 (A)			<p>Part 1. General 110.1(A) Scope... 110.1(B) Electrical installations serving development sites. The conductors and equipment required or permitted by this code shall only supply one development site parcel and shall not pass through another development site.</p>	<p>No WAC amendment.</p> <p>Seattle proposes: See also 230.4. The SDCI Internal Committee developed a new section based on 230.4, which prohibits the running of service entry conductors across development parcels or through another development site parcel to access another one. Adding this language at 110.1 extends the prohibition to feeders, branch circuits, etc.</p> <p>Committee approved 4-4-2024 as written. Do not adopt “development site parcel” language and just use “development site”.</p>
S	110.2	Approval	<p>110.2 Approval. The conductors and equipment required or permitted by this Code shall be ((acceptable)) approved only if ((approved)) the conductors or equipment meet minimum safety standards by conforming to applicable electrical product standards recognized by the authority having jurisdiction. Suitability of compliance may be demonstrated by listing or labeling from a National Recognized Testing Laboratory (NRTL).</p>	<p>110.2 Approval. The conductors and equipment required or permitted by this Code shall be ((acceptable)) approved only if ((approved)) the conductors or equipment meet minimum safety standards by conforming to applicable electrical product standards recognized by the authority having jurisdiction. Suitability of compliance may be demonstrated by listing or labeling from a National Recognized Testing Laboratory (NRTL).</p>	<p>No WAC amendment.</p> <p>Seattle proposes: Carry over 2020 SEC amendment and overlay on 2023 NEC.</p>

			<p>Informational Note: See <u>Sections 80.5, Testing, 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. ((See)) Also see Article 100 definitions of <i>Approved, Identified, Labeled, and Listed.</i></u></p>	<p>Informational Note: See <u>Sections 80.5, Testing, 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. ((See)) Also see Article 100 definitions of <i>Approved, Identified, Labeled, and Listed.</i></u></p>	
W, S	110.11	Deteriorating Agents	<p>110.11 Deteriorating Agents. Unless identified for use in the operating environment, no conductors or equipment shall be located in damp or wet locations; where exposed to gases, fumes, vapors, liquids, or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures.</p> <p>Informational Note No. 1: See 300.6 for protection against corrosion.</p> <p>Informational Note No. 2: Some cleaning and lubricating compounds can cause severe deterioration of many plastic materials used for insulating and structural applications in equipment.</p> <p>Equipment not identified for outdoor use and equipment identified only for indoor use, such as “dry locations,” “indoor use only,” “damp locations,” or enclosure Types 1, 2, 5, 12, 12K, and/or 13, shall be protected against damage from the weather during construction.</p> <p>Informational Note No. 3: See Table 110.28 for appropriate enclosure-type designations.</p> <p>Informational Note No. 4: Minimum flood provisions are provided in NFPA 5000-2015 Building Construction and Safety Code, the International Building Code (IBC), and the International Residential Code for One- and Two-Family Dwellings (IRC).</p> <p><u>(A) Exposure not identified for use in the operating environment. Electrical equipment and wiring submerged or exposed to water must comply with the following:</u></p> <p><u>(1) All circuit breakers, fuses, controllers, receptacles, lighting switches or dimmers, electric heaters, and any sealed device or equipment (e.g., relays, contactors, etc.) must be replaced.</u></p> <p><u>(2) All other electrical equipment (e.g., wiring, breaker panelboards, disconnect switches, switchgear, motor control centers, boiler controls, HVAC/R equipment, electric motors, transformers, appliances, water heaters, and similar appliances) must be replaced or reconditioned by the original manufacturer or by its approved representative. See Sections 210.15, 240.62, 240.88, 240.102 and 410.7 for equipment that is not permitted to be reconditioned. See also 110.21(A)(1).</u></p> <p>Informational Note: WAC 296-46B-110(011), requirements for electrical equipment and wiring submerged or exposed to water, is incorporated herein.</p>	<p>110.11 Deteriorating Agents. Unless identified for use in the operating environment, no conductors or equipment shall be located in damp or wet locations; where exposed to gases, fumes, vapors, liquids, or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures.</p> <p>Informational Note No. 1: See 300.6 for protection against corrosion.</p> <p>Informational Note No. 2: Some cleaning and lubricating compounds can cause severe deterioration of many plastic materials used for insulating and structural applications in equipment.</p> <p>Equipment not identified for outdoor use and equipment identified only for indoor use, such as “dry locations,” “indoor use only,” “damp locations,” or enclosure Types 1, 2, 5, 12, 12K, and/or 13, shall be protected against damage from the weather during construction.</p> <p>Informational Note No. 3: See Table 110.28 for appropriate enclosure-type designations.</p> <p>Informational Note No. 4: See NFPA 5000 -2015, <i>Building Construction and Safety Code, the International Building Code (IBC), and the International Residential Code for One- and Two-Family Dwellings (IRC)</i>, for information for minimum flood provisions.</p> <p><u>(A) Exposure not identified for use in the operating environment. Electrical equipment and wiring submerged or exposed to water must comply with the following:</u></p> <p><u>(1) All circuit breakers, fuses, controllers, receptacles, lighting switches or dimmers, electric heaters, and any sealed device or equipment (e.g., relays, contactors, etc.) must be replaced.</u></p> <p><u>(2) All other electrical equipment (e.g., wiring, breaker panelboards, disconnect switches, switchgear, motor control centers, boiler controls, HVAC/R equipment, electric motors, transformers, appliances, water heaters, and similar appliances) must be replaced or reconditioned by the original manufacturer or by its approved representative. See Sections 210.15, 240.62, 240.88, 240.102 and 410.7 for equipment that is not permitted to be reconditioned. See also 110.21(A)(1).</u></p> <p>Informational Note: WAC 296-46B-110(011), requirements for electrical equipment and wiring submerged or exposed to water, is incorporated herein.</p>	<p>WAC amendment (not new) Minor NEC changes</p> <p>Seattle proposes: Carry over 2020 SEC amendment and overlay on 2023 NEC.</p>

S	110.12	Mechanical Execution of Work.	<p>110.12 Mechanical Execution of Work. Electrical equipment shall be installed in a neat and workmanlike manner.</p> <p>Informational Note: Accepted industry practices are described in ANSI/NECA 1-2015, Standard for Good Workmanship in Electrical Construction, and other ANSI-approved installation standards.</p> <p>(A) Unused Openings. Unused openings, other than those intended for the operation of equipment, those intended or mounting purposes, or those permitted as part of the design for listed equipment, shall be closed to afford protection substantially equivalent to the wall of the equipment. Where metallic plugs or plates are used with nonmetallic enclosures, they shall be recessed at least 6 mm (1/4 in.) from the outer surface of the enclosure.</p> <p>(B) Integrity of Electrical Equipment and Connections. Internal parts of electrical equipment, including busbars, wiring terminals, insulators, and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives, or corrosive residues. There shall be no damaged parts that may adversely affect safe operation or mechanical strength of the equipment such as parts that are broken; bent; cut; or deteriorated by corrosion, chemical action, or overheating.</p> <p>(C) Cables and Conductors. Cables and conductors installed exposed on the surfaces of ceilings and sidewalls shall be supported by the building structure in such a manner that the cables and conductors will not be damaged by normal building use. Such cables and conductors shall be secured by hardware including straps, staples, cable ties, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform with 300.4 and 300.11. Nonmetallic cable ties and other nonmetallic cable accessories used to secure and support cables in other spaces used for environmental air (plenums) shall be listed as having low smoke and heat release properties. <u>Where straps or cable ties are installed exposed to sunlight, they shall be listed for exposure to ultraviolet light.</u></p> <p>Informational Note No. 1: Accepted industry practices are described in ANSI/NECA/FOA 301-2009, Standard for Installing and Testing Fiber Optic Cables, and other ANSI-approved installation standards.</p> <p>Informational Note No. 2: See 4.3.11.2.6.5 and 4.3.11.5.5.6 of NFPA 90A-2018, <i>Standard for the Installation of Air-Conditioning and Ventilating Systems</i>, for discrete combustible components installed in accordance with 300.22(C).</p> <p>Informational Note No. 3: Paint, plaster, cleaners, abrasives, corrosive residues, or other contaminants may result in an undetermined alteration of optical fiber cable properties.</p>	<p>110.12 Mechanical Execution of Work. Electrical equipment shall be installed in a professional and skillful manner.</p> <p>Informational Note: See ANSI/NECA 1-2015, <i>Standard for Good Workmanship in Electrical Construction</i>, and other ANSI-approved installation standards for information on accepted industry practices.</p> <p>(A) Unused Openings. Unused openings, other than those intended for the operation of equipment, those intended or mounting purposes, or those permitted as part of the design for listed equipment, shall be closed to afford protection substantially equivalent to the wall of the equipment. Where metallic plugs or plates are used with nonmetallic enclosures, they shall be recessed at least 6 mm (1/4 in.) from the outer surface of the enclosure.</p> <p>(B) Integrity of Electrical Equipment and Connections. Internal parts of electrical equipment, including busbars, wiring terminals, insulators, and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives, or corrosive residues. There shall be no damaged parts that may adversely affect safe operation or mechanical strength of the equipment such as parts that are broken; bent; cut; or deteriorated by corrosion, chemical action, or overheating.</p> <p>(C) Cables and Conductors. Cables and conductors installed exposed on the surfaces of ceilings and sidewalls shall be supported by the building structure in such a manner that the cables and conductors will not be damaged by normal building use. Such cables and conductors shall be secured by hardware including straps, staples, cable ties, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform with 300.4 and 300.11. Nonmetallic cable ties and other nonmetallic cable accessories used to secure and support cables in other spaces used for environmental air (plenums) shall be listed as having low smoke and heat release properties. <u>Where straps or cable ties are installed exposed to sunlight, they shall be listed for exposure to ultraviolet light.</u></p> <p>Informational Note No. 1: See NFPA 90A-2021, <i>Standard for the Installation of Air-Conditioning and Ventilating Systems</i>, 4.3.11.2.6.5 and 4.3.11.5.5.6, for discrete combustible components installed in accordance with 300.22(C).</p> <p>Informational Note No. 2: Paint, plaster, cleaners, abrasives, corrosive residues, or other contaminants may result in an undetermined alteration of optical fiber cable properties.</p>	<p>No WAC amendment.</p> <p>Seattle Proposes:</p> <p>Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p>
S	110.13	Mounting and Cooling of Equipment.	<p>110.13 Mounting and Cooling of Equipment.</p> <p>(A) Mounting. Electrical equipment shall be firmly secured to the surface on which it is mounted. Wooden plugs riven into holes in masonry, concrete, plaster, or similar materials shall not be used.</p> <p>(B) Cooling. Electrical equipment that depends on the natural circulation of air and convection principles for cooling of exposed surfaces shall be installed so that room airflow over such surfaces is not prevented by walls or by adjacent installed equipment. For equipment designed for floor mounting, clearance between top surfaces and adjacent surfaces shall be provided to dissipate rising warm air.</p> <p>Electrical equipment provided with ventilating openings</p>	<p>110.13 Mounting and Cooling of Equipment.</p> <p>(A) Mounting. Electrical equipment shall be firmly secured to the surface on which it is mounted. Wooden plugs riven into holes in masonry, concrete, plaster, or similar materials shall not be used.</p> <p>(B) Cooling. Electrical equipment that depends on the natural circulation of air and convection principles for cooling of exposed surfaces shall be installed so that room airflow over such surfaces is not prevented by walls or by adjacent installed equipment. For equipment designed for floor mounting, clearance between top surfaces and adjacent surfaces shall be provided to</p>	<p>No WAC amendment.</p> <p>Seattle Proposes:</p> <p>Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p>

			<p>shall be installed so that walls or other obstructions do not prevent the free circulation of air through the equipment.</p> <p>(C) Locations.</p> <p>(1) Required Egress. Electrical equipment shall not project beyond the face of the wall or ceiling in halls, corridors, or other locations that would reduce the width or height required by the <i>Seattle Building Code</i> for such locations.</p> <p><i>Informational Note:</i> See Chapter 10 of the <i>Seattle Building Code</i> for prohibitions of electrical equipment within required means of egress system elements.</p>	<p>dissipate rising warm air.</p> <p>Electrical equipment provided with ventilating openings shall be installed so that walls or other obstructions do not prevent the free circulation of air through the equipment.</p> <p>(C) Locations.</p> <p>(1) Required Egress. Electrical equipment shall not project beyond the face of the wall or ceiling in halls, corridors, or other locations that would reduce the width or height required by the <i>Seattle Building Code</i> for such locations.</p> <p><i>Informational Note:</i> See Chapter 10 of the <i>Seattle Building Code</i> for prohibitions of electrical equipment within required means of egress system elements.</p>	<p>Internal committee approved as shown 3-26-3024. Carry over 2020 SEC amendments into 2023 SEC.</p>
S	110.16	Arc-Flash Hazard Warning.	<p>110.16 Arc-Flash Hazard Warning.</p> <p>(A) General. Electrical equipment, such as switchboards, switchgear, panelboards, industrial control panels, meter socket enclosures, and motor control centers, that is in other than dwelling units, and is likely to require examination, adjustment, servicing, or maintenance while energized, shall be field or factory marked to warn qualified persons of potential electric arc flash hazards. The marking shall meet the requirements in 110.21(B) and shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment.</p> <p>Δ ((B) Service Equipment. In other than dwelling units, in addition to the requirements in (A), a permanent label shall be field or factory applied to service equipment rated 1200 amps or more. The label shall meet the requirements of 110.16(A) and contain the following information:</p> <p>(1) Nominal system voltage</p> <p>(2) Available fault current at the service overcurrent protective devices</p> <p>(3) The clearing time of service overcurrent protective devices based on the available fault current at the service equipment.</p> <p>(4) The date the label was applied</p> <p><i>Exception: Service equipment labeling shall not be required if an arc flash label is applied in accordance with acceptable industry practice.))</i></p> <p>(B) Hazard Marking. In other than dwelling units, one or more markings shall be applied on site, to the equipment identified in 110.16(A) to identify specific arc-flash hazard(s). The marking shall be an identification plate or label meeting ANSI Standard Z535.4- 2011, or be of a type that is approved by the authority having jurisdiction or designated representative. The plate or label shall include the name of the company or individual responsible for the arc-flash hazard analysis, the date of the analysis and all the following, as identified in NFPA 70E, Standard for Electrical Safety in the Workplace:</p>	<p>110.16 Arc-Flash Hazard Warning.</p> <p>(A) General. Electrical equipment, such as switchboards, switchgear, enclosed panelboards, industrial control panels, meter socket enclosures, and motor control centers, that is in other than dwelling units, and is likely to require examination, adjustment, servicing, or maintenance while energized, shall be field or factory marked to warn qualified persons of potential electric arc flash hazards. The marking shall meet the requirements in 110.21(B) and shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment.</p> <p>Δ (B) Service Equipment and Feeder Supplied Equipment. In other than dwelling units, in addition to the requirements in 110.16(A), a permanent arc flash label shall be field or factory applied to service equipment and feeder supplied equipment rated 1000 amperes or more. The arc flash label shall be in accordance with applicable industry practice and include the date the label was applied. The label shall meet the requirements of 110.21(B) and contain the following information:</p> <p>(1) Nominal system voltage</p> <p>(2) Available fault current at the service overcurrent protective devices-service and feeder supplied equipment</p> <p>(3) The clearing time of overcurrent protective devices supplying the service or feeder supplied equipment based on the available fault current at the service equipment.</p> <p>(4) The date the label was applied</p> <p>(B) Hazard Marking. In other than dwelling units, one or more markings shall be applied on site, to the equipment identified in 110.16(A) to identify specific arc flash hazard(s). The marking shall be an identification plate or label meeting ANSI Standard Z535.4- 2011, or be of a type that is approved by the authority having jurisdiction or designated representative. The plate or label shall include the name of the company or individual responsible for the arc flash hazard analysis, the date of the analysis and all the</p>	<p>No WAC amendment.</p> <p>Seattle proposes: removing the 2020 SEC amendment (B) for hazard markings for arc-flash hazards and keeping the breakout of info that needs to be on the label of the service equipment.</p> <p>The 2020 language is confusing and requires an arc flash study on anything (part A) other than services (exception)? It doesn't appear not require the available fault current. The WAC does not modify the NEC, and 2023 NEC has expanded to feeders over 1000A. 2023 NEC removed the required information on the label, but we decided to include it.</p> <p>Committee adopt with edits as shown. 3-26-2024</p>

			<p>(1) Nominal system voltage;</p> <p>(2) Arc-flash boundary; and</p> <p>(3) At least one of the following:</p> <p>(a) Available incident energy and the corresponding working distance, or the arc-flash PPE category for the equipment, but not both</p> <p>(b) Minimum arc rating of clothing</p> <p>(c) Site-specific level of PPE</p> <p><i>Exception: Service equipment labeling shall not be required if an arc flash label is applied in accordance with acceptable industry practice.</i></p> <p>Informational Note No. 1: NFPA 70E-2018, Standard for Electrical Safety in the Workplace, provides guidance, such as determining severity of potential exposure, planning safe work practices, arc flash labeling, and selecting personal protective equipment.</p> <p>Informational Note No. 2: ANSI Z535.4-2011, Product Safety Signs and Labels, provides guidelines for the design of safety signs and labels for application to products.</p> <p>Informational Note No. 3: Acceptable industry practices for equipment labeling are described in NFPA 70E-2018 Standard for Electrical Safety in the Workplace. This standard provides specific criteria for developing arc-flash labels for equipment that provides nominal system voltage, incident energy levels, arc-flash boundaries, minimum required levels of personal protective equipment, and so forth.</p>	<p><u>following, as identified in NFPA 70E, Standard for Electrical Safety in the Workplace:</u></p> <p><u>(1) Nominal system voltage;</u></p> <p><u>(2) Arc flash boundary; and</u></p> <p><u>(3) At least one of the following:</u></p> <p><u>(a) Available incident energy and the corresponding working distance, or the arc flash PPE category for the equipment, but not both</u></p> <p><u>(b) Minimum arc rating of clothing</u></p> <p><u>(c) Site specific level of PPE</u></p> <p>Informational Note No. 1: See ANSI Z535.4-2011 (R2017), <i>Product Safety Signs and Labels</i>, for guidelines for the design of safety signs and labels for application to products.</p> <p>Informational Note No. 2: See NFPA 70E-2021, <i>Standard for Electrical Safety in the Workplace</i>, for applicable industry practices for equipment labeling. This standard provides specific criteria for developing arc-flash labels for equipment that provides nominal system voltage, incident energy levels, arc-flash boundaries, minimum required levels of personal protective equipment, and so forth.</p>	
S	110.20	Electrified Fences and Similar Devices	<p>110.20 Electrified Fences and Similar Devices. Electrified fences, associated equipment and similar devices shall be permitted only by special permission from the authority having jurisdiction.</p>	<p>110.20 Electrified Fences and Similar Devices. Electrified fences, <u>which deliver an intentional electric shock on contact</u>, associated equipment, and similar devices shall be permitted only by special permission from the authority having jurisdiction. <u>Electrified fences that perform surveillance functions only shall be permitted.</u></p>	<p>No WAC amendment.</p> <p>Seattle proposes: distinguishing between electric fences that shock, and electric fences that only set off alarms, which are becoming more popular.</p> <p>Also need to change article number as 110.20 has now been adopted in NEC for reconditioned equipment.</p> <p>Committee approved 3/26/2024. Needs renumbering. JLG: I think that we should renumber subsequent sections on this one. It seems like this is the right location for this section.</p>
S	110.21	Marking	<p>110.21 Marking.</p> <p>(A) ((Equipment)) Manufacturer's Markings.</p> <p>(1) General. The manufacturer's name, trademark or other descriptive marking by which the organization responsible for the product can be identified shall be placed on all electrical equipment. ((Other markings)) Markings that indicate voltage, current, wattage, or other ratings shall be provided as specified elsewhere in this Code. The marking or label shall be of sufficient durability to withstand the environment involved.</p>	<p>110.21 Marking.</p> <p>▲ (A) Equipment <u>Manufacturer's</u> Markings.</p> <p>(1) General. The manufacturer's name, trademark, or other descriptive marking by which the organization responsible for the product can be identified shall be applied or affixed onto all electrical equipment. Other markings that indicate voltage, current, wattage, or other ratings shall be provided as specified elsewhere in this Code. The marking shall be of sufficient durability to withstand the environment involved.</p>	<p>No WAC section</p> <p>(C)(1) and (2) were missing from 2020, but they should be stricken from the code.</p> <p>WAC defines an identification plate to include an adhesive sticker. If we include the WAC's definition of identification plate, we don't have to have a separate</p>

		<p>Δ (2) Reconditioned Equipment. Reconditioned equipment shall be marked with the name, trademark, or other descriptive marking by which the organization responsible for reconditioning the electrical equipment can be identified, along with the date of the reconditioning.</p> <p>Reconditioned equipment shall be identified as “reconditioned” and the original listing mark removed. Approval of the reconditioned equipment shall not be based solely on the equipment’s original listing.</p> <p><i>Exception: In industrial occupancies, where conditions of maintenance and supervision ensure that only qualified persons service the equipment, the markings indicated in 110.21(A)(2) shall not be required for equipment that is reconditioned by the owner or operator as part of a regular equipment maintenance program.</i></p> <p>Informational Note No. 1: Industry standards are available for application of reconditioned and refurbished equipment.</p> <p>Informational Note No. 2: The term reconditioned may be interchangeable with the terms rebuilt, refurbished, or remanufactured.</p> <p>Informational Note No. 3: The original listing mark may include the mark of the certifying body and not the entire equipment label.</p> <p>Informational Note No. 4: See Sections 210.15, 240.62, 240.102 and 410.7 for electrical equipment that is not permitted to be reconditioned.</p> <p>(B) Field-Applied Hazard Markings. Where caution, warning, or danger signs or labels are required by this Code, the labels shall meet the following requirements:</p> <ol style="list-style-type: none"> (1) The marking shall warn of the hazards using effective words, colors, symbols, or any combination thereof. Informational Note: ANSI Z535.4-2011, Product Safety Signs and Labels, provides guidelines for suitable font sizes, words, colors, symbols, and location requirements for labels. (2) The label shall be permanently affixed to the equipment or wiring method and shall not be handwritten. <i>Exception to (2): Portions of labels or markings that are variable, or that could be subject to changes, shall be permitted to be handwritten and shall be legible.</i> (3) The label shall be of sufficient durability to withstand the environment involved. <p>Informational Note: ANSI Z535.4-2011, Product Safety Signs and Labels, provides guidelines for the design and durability of safety signs and labels for application to electrical equipment.</p> <p>(C) Other Marking or Labeling. Marking or labeling required by this Code shall be of sufficient durability to withstand the environment in which it is used. Unless otherwise required by this Code, both marking and labeling shall have lettering of not less than 6mm (1/4 in.) high and the letters shall be in contrast to the background. Marking or labeling shall be affixed using one of the following materials:</p>	<p>(2) Reconditioned Equipment. Reconditioned equipment shall be marked with the following:</p> <ol style="list-style-type: none"> (1) Name, trademark, or other descriptive marking of the organization that performed the reconditioning (2) The date of the reconditioning (3) The term <i>reconditioned</i> or other approved wording or symbol indicating that the equipment has been reconditioned <p>The original listing mark shall be removed or made permanently illegible. The equipment nameplate shall not be required to be removed or made permanently illegible, only the part of the nameplate that includes the listing mark, if applicable. Approval of the reconditioned equipment shall not be based solely on the equipment’s original listing.</p> <p><i>Exception: In industrial occupancies, where conditions of maintenance and supervision ensure that only qualified persons service the equipment, the markings indicated in 110.21(A)(2) shall not be required for equipment that is reconditioned by the owner or operator as part of a regular equipment maintenance program.</i></p> <p>Informational Note No. 1: ANSI-approved standards are available for application of reconditioned and refurbished equipment.</p> <p>Informational Note No. 2: The term <i>reconditioned</i> may be interchangeable with the terms <i>rebuilt, refurbished, or remanufactured</i> even though these are sometimes different processes.</p> <p>Δ (B) Field-Applied Hazard Markings. Where caution, warning, or danger hazard markings such as labels or signs are required by this Code, the markings shall meet the following requirements:</p> <ol style="list-style-type: none"> (1) The marking shall be of sufficient durability to withstand the environment involved and warn of the hazards using effective words, colors, symbols, or any combination thereof. Informational Note No. 1: See ANSI Z535.2-2011 (R2017), <i>Environmental and Facility Safety Signs</i>, which describes the design, application, and use of safety signs in facilities and in the environment. Informational Note No. 2: See ANSI Z535.4-2011 (R2017), <i>Product Safety Signs and Labels</i>, which details the design, application, use, and placement of safety signs and labels on a wide variety of products. (2) The marking shall be permanently affixed to the equipment or wiring method and shall not be handwritten. <i>Exception to (2): Portions of the markings that are variable, or that could be subject to changes, shall be permitted to be handwritten and shall be legible.</i> <p>(C) Other Marking or Labeling. Marking or labeling required by this Code shall be of sufficient durability to withstand the</p>	<p>item for adhesive sticker. This also removes the requirement for phenolics on every single disconnect regardless of rating, size, or location required by 110.22.</p> <p>Also removing our edit of “equipment markings”, not sure what changing it to “manufacturer’s markings” does for us.</p> <p>Committee approved 3-26-2026. Added definition for identification plate in Article 100.</p> <p><u>JLG—I removed this from the spreadsheet.</u> <u>: Identification Plate: A label suitable for the environment and is a printed or etched adhesive label approved by the department or a phenolic or metallic plate or other similar material engraved in block letters at least 1/4 inch high unless specifically required to be larger by this chapter, suitable for the environment and application. The letters and the background must be in contrasting colors. Screws, rivets, permanent adhesive, or methods specifically described in this chapter must be used to affix an identification plate to the equipment or enclosure.</u></p> <p><i>Exception to (C): Manufacturer’s marking shall not be required to have lettering of not less than 6 mm (1/4 in.).</i></p>
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				<p>environment in which it is used. Unless otherwise required by this Code, both marking and labeling shall have lettering of not less than 6mm (1/4 in.) high and the letters shall be in contrast to the background. Marking or labeling shall be affixed using <u>one of the following materials: an identification plate as defined below:</u></p> <p><u>(1) Identification Plate. Where an identification plate is required, it shall be made of phenolic, metallic, or other similar rigid plate material, engraved with block letters and affixed by screws, rivets, permanent adhesive, or other methods required in this Code.</u></p> <p><u>(2) Adhesive Sticker. When an identification plate is not required, an adhesive sticker may be used. The sticker shall have permanent lettering and have an adhesive that securely and permanently affixes the sticker.</u></p> <p><u>Informational Note: The requirements of WAC 296-46B-110.022 are incorporated herein with edits.</u></p>	
	110.22	<p>Identification of Disconnecting Means.</p>	<p>110.22 Identification of Disconnecting Means.</p> <p>(A) General. Each disconnecting means shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident. In other than one- or two-family dwellings, the marking shall include the identification of the circuit source that supplies the disconnecting means. The marking shall be of sufficient durability to withstand the environment involved.</p> <p><u>For the purpose of legibly marking a disconnecting means, as required by this section, an identification plate is required unless the disconnect is a circuit breaker or fused switch installed within a panelboard and the circuit breaker or fused switch is identified by a panelboard schedule. In other than one- or two-family dwellings, the identification plate must include the identification designation of the circuit source panelboard that supplies the disconnecting means.</u></p> <p><u>Informational Note: WAC 296-46B-110.022—requirements for identification of disconnecting means is incorporated herein.</u></p> <p>(B) Engineered Series Combination Systems. Equipment enclosures for circuit breakers or fuses applied in compliance with series combination ratings selected under engineering supervision in accordance with 240.86(A) shall be legibly marked in the field as directed by the engineer to indicate the equipment has been applied with a series combination rating. The marking shall meet the requirements in 110.21(B) and shall be readily visible and state the following:</p> <p style="text-align: center;">CAUTION—ENGINEERED SERIES COMBINATION SYSTEM RATED _____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.</p> <p>(C) Tested Series Combination Systems. Equipment enclosures for circuit breakers or fuses are applied in compliance with the series combination ratings marked on the equipment by the manufacturer in accordance with 240.86(B) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The marking shall meet the requirements in 110.21(B) and shall be readily visible and state the following:</p>	<p>110.22 Identification of Disconnecting Means.</p> <p>(A) General. Each disconnecting means shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident. In other than one- or two-family dwellings, the marking shall include the identification and location of the circuit source that supplies the disconnecting means unless located and arranged so the identification and location of the circuit source is evident. The marking shall be of sufficient durability to withstand the environment involved.</p> <p><u>For the purpose of legibly marking a disconnecting means, as required by this section, an identification plate is required unless the disconnect is a circuit breaker or fused switch installed within a panelboard and the circuit breaker or fused switch is identified by a panelboard schedule. In other than one- or two-family dwellings, the identification plate must include the identification designation of the circuit source panelboard that supplies the disconnecting means.</u></p> <p><u>Informational Note: WAC 296-46B-110.022—requirements for identification of disconnecting means is incorporated herein.</u></p> <p>(B) Engineered Series Combination Systems. Equipment enclosures for circuit breakers or fuses applied in compliance with series combination ratings selected under engineering supervision in accordance with 240.86(A) shall be legibly marked in the field as directed by the engineer to indicate the equipment has been applied with a series combination rating. The marking shall meet the requirements in 110.21(B) and shall be readily visible and state the following:</p> <p style="text-align: center;">CAUTION — ENGINEERED SERIES COMBINATION SYSTEM RATED _____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.</p> <p>(C) Tested Series Combination Systems. Equipment enclosures for circuit breakers or fuses applied in compliance with the series combination ratings marked on the equipment by the manufacturer in</p>	<p>WAC amendment Small NEC change</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay onto 2023 SEC.</p> <p>Committee approved 3/27/2024. Carry over 2020 [S] amendments into 2023 NEC language.</p>

			<p>CAUTION—SERIES COMBINATION SYSTEM RATED _____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.</p> <p>Informational Note: See IEEE 3004.5-2014 Recommended Practice for the Application of Low-Voltage Circuit Breakers in Industrial and Commercial Power Systems, for further information on series tested systems.</p>	<p>accordance with 240.86(B) shall be legibly marked in the field to indicate the equipment has been applied with a series combination rating. The marking shall meet the requirements in 110.21(B) and shall be readily visible and state the following:</p> <p>CAUTION — SERIES COMBINATION SYSTEM RATED _____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.</p> <p>Informational Note: See IEEE 3004.5-2014 <i>Recommended Practice for the Application of Low-Voltage Circuit Breakers in Industrial and Commercial Power Systems</i>, for further information on series tested systems.</p>	
	110.26	Spaces About Electrical Equipment.	<p>110.26 Spaces About Electrical Equipment. Access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment.</p> <p>(A) Working Space. Working space for equipment operating at 1000 volts, nominal, or less to ground and likely to require examination, adjustment, servicing, or maintenance while energized shall comply with the dimensions of 110.26(A)(1), (A)(2), (A)(3), and (A)(4) or as required or permitted elsewhere in this Code.</p> <p>Informational Note: NFPA 70E-2018, Standard for Electrical Safety in the Workplace, provides guidance, such as determining severity of potential exposure, planning safe work practices including establishing an electrically safe work condition, arc flash labeling, and selecting personal protective equipment.</p> <p>(1) Depth of Working Space. The depth of the working space in the direction of live parts shall not be less than that specified in Table 110.26(A)(1) unless the requirements of 110.26(A)(1)(a), (A)(1)(b), or (A)(1)(c) are met. Distances shall be measured from the exposed live parts or from the enclosure or opening if the live parts are enclosed.</p> <p>(a) <i>Dead-Front Assemblies.</i> Working space shall not be required in the back or sides of assemblies, such as dead-front switchboards, switchgear, or motor control centers, where all connections and all renewable or adjustable parts, such as fuses or switches, are accessible from locations other than the back or sides. Where rear access is required to work on nonelectrical parts on the back of enclosed equipment, a minimum horizontal working space of 762 mm (30 in.) shall be provided.</p> <p>(b) <i>Low Voltage.</i> By special permission, smaller working spaces shall be permitted where all exposed live parts operate at not greater than 30 volts rms, 42 volts peak, or 60 volts dc.</p> <p>(c) <i>Existing Buildings.</i> In existing buildings where electrical equipment is being replaced, Condition 2 working clearance shall be permitted between dead-front switchboards, switchgear, panelboards, or motor control centers located across the aisle from each other where conditions of maintenance and supervision ensure that written procedures have been adopted to prohibit equipment on both sides of the aisle from being</p>	<p>110.26 Spaces About Electrical Equipment. Working space, and access to and egress from working space, shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment. Open equipment doors shall not impede access to and egress from the working space. Access or egress is impeded if one or more simultaneously opened equipment doors restrict working space access to be less than 610 mm (24 in.) wide and 2.0 m (61/2 ft) high.</p> <p>(A) Working Space. Working space for equipment operating at 1000 volts, nominal, or less to ground and likely to require examination, adjustment, servicing, or maintenance while energized shall comply with the dimensions of 110.26(A)(1), (A)(2), (A)(3), and (A)(4) or as required or permitted elsewhere in this Code.</p> <p>Informational Note: See NFPA 70E-2021, <i>Standard for Electrical Safety in the Workplace</i>, for guidance, such as determining severity of potential exposure, planning safe work practices including establishing an electrically safe work condition, arc flash labeling, and selecting personal protective equipment.</p> <p>Δ (1) Depth of Working Space. The depth of the working space in the direction of live parts shall not be less than that specified in Table 110.26(A)(1) unless the requirements of 110.26(A)(1)(a), (A)(1)(b), or (A)(1)(c) are met. Distances shall be measured from the exposed live parts or from the enclosure or opening if the live parts are enclosed.</p> <p>(a) <i>Dead-Front Assemblies.</i> Working space shall not be required in the back or sides of assemblies, such as dead-front switchboards, switchgear, or motor control centers, where all connections and all renewable or adjustable parts, such as fuses or switches, are accessible from locations other than the back or sides. Where rear access is required to work on nonelectrical parts on the back of enclosed equipment, a minimum horizontal working space of 762 mm (30 in.) shall be provided.</p> <p>(b) <i>Low Voltage.</i> By special permission, smaller working spaces shall be permitted where all exposed live parts operate at not greater than 30 volts rms, 42 volts peak, or 60 volts dc.</p> <p>(c) <i>Existing Buildings.</i> In existing buildings where electrical equipment is being replaced, Condition 2 working clearance shall be permitted between dead-front switchboards, switchgear, enclosed</p>	<p>WAC amendment</p> <p>Seattle proposes: keeping requirements about res illuminations but are editing the language to clarify that:</p> <p><u>In residential installations, illumination shall be provided for all working spaces about panelboards that are located outdoors and contain branch circuits.</u> This portion of the section was edited to specify that the working space that is to be illuminated is around panelboards.</p> <p>Committee approved 3/27/2024: Adopt without housekeeping pad requirement. No edits to “egress from working space”. Keep exterior illumination requirement with edits for clarity.</p> <p>Decided against. CK: I feel we should add this in 110.26(G). Here is Portland’s simple verbiage: Concrete Pads: Provide minimum 3-inch-thick concrete housekeeping pads under all free-standing pieces of switchgear. Extend pads a minimum of 2 inches beyond the edges of the equipment.</p> <p>Decided against: PGF: Propose addressing egress from “working space” vs. egress from room and personnel doors.</p>

		<p>open at the same time and qualified persons who are authorized will service the installation.</p> <p>(2) Width of Working Space. The width of the working space in front of the electrical equipment shall be the width of the equipment or 762 mm (30 in.), whichever is greater. In all cases, the work space shall permit at least a 90 degree opening of equipment doors or hinged panels.</p> <p>Δ (3) Height of Working Space. The work space shall be clear and extend from the grade, floor, or platform to a height of 2.0 m (6 1/2 ft) or the height of the equipment, whichever is greater. Within the height requirements of this section, other equipment or support structures, such as concrete pads, associated with the electrical installation and located above or below the electrical equipment shall be permitted to extend not more than 150 mm (6 in.) beyond the front of the electrical equipment.</p> <p><i>Exception No. 1: On battery systems mounted on open racks, the top clearance shall comply with 480.10(D).</i></p> <p><i>Exception No. 2: In existing dwelling units, service equipment or panelboards that do not exceed 200 amperes shall be permitted by special permission in spaces where the height of the working space is less than 2.0 m (6 1/2 ft).</i></p> <p><i>Exception No. 3: Meters that are installed in meter sockets shall be permitted to extend beyond the other equipment. The meter socket shall be required to follow the rules of this section.</i></p> <p>(4) Limited Access. Where equipment operating at 1,000 volts, nominal, or less to ground and likely to require examination, adjustment, servicing, or maintenance while energized is required by installation instructions or function to be located in a space with limited access, all of the following shall apply:</p> <p>(1) Where equipment is installed above a lay-in ceiling, there shall be an opening not smaller than 559 mm × 559 mm (22 in. × 22 in.), or in a crawl space, there shall be an accessible opening not smaller than 559 mm × 762 mm (22 in. × 30 in.).</p> <p>(2) The width of the working space shall be the width of the equipment enclosure or a minimum of 762 mm (30 in.), whichever is greater.</p> <p>(3) All enclosure doors or hinged panels shall be capable of opening a minimum of 90 degrees.</p> <p>(4) The space in front of the enclosure shall comply with the depth requirements of Table 110.26(A)(1). The maximum height of the working space shall be the height necessary to install the equipment in the limited space. A horizontal ceiling structural member or access panel shall be permitted in this space.</p> <p>(5) Separation from High-Voltage Equipment. Where switches, cutouts, or other equipment operating at 1000 volts, nominal, or less are installed in a vault, room, or enclosure where</p>	<p>panelboards, or motor control centers located across the aisle from each other where conditions of maintenance and supervision ensure that written procedures have been adopted to prohibit equipment on both sides of the aisle from being open at the same time and qualified persons who are authorized will service the installation.</p> <p>(2) Width of Working Space. The width of the working space in front of the electrical equipment shall be the width of the equipment or 762 mm (30 in.), whichever is greater. In all cases, the work space shall permit at least a 90-degree opening of equipment doors or hinged panels.</p> <p>(3) Height of Working Space. The work space shall be clear and extend from the grade, floor, or platform to a height of 2.0 m (61/2 ft) or the height of the equipment, whichever is greater. Within the height requirements of this section, other equipment or support structures, such as concrete pads, associated with the electrical installation and located above or below the electrical equipment shall be permitted to extend not more than 150 mm (6 in.) beyond the front of the electrical equipment.</p> <p><i>Exception No. 1: On battery systems mounted on open racks, the top clearance shall comply with 480.10(D).</i></p> <p><i>Exception No. 2: In existing dwelling units, service equipment or enclosed panelboards that do not exceed 200 amperes shall be permitted in spaces where the height of the working space is less than 2.0 m (61/2 ft).</i></p> <p><i>Exception No. 3: Meters that are installed in meter sockets shall be permitted to extend beyond the other equipment. The meter socket shall be required to follow the rules of this section.</i></p> <p>(4) Limited Access. Where equipment operating at 1000 volts, nominal, or less to ground and likely to require examination, adjustment, servicing, or maintenance while energized is required by installation instructions or function to be located in a space with limited access, all of the following shall apply:</p> <p>(1) Where equipment is installed above a lay-in ceiling, there shall be an opening not smaller than 559 mm × 559 mm (22 in. × 22 in.), or in a crawl space, there shall be an accessible opening not smaller than 559 mm × 762 mm (22 in. × 30 in.).</p> <p>(2) The width of the working space shall be the width of the equipment enclosure or a minimum of 762 mm (30 in.), whichever is greater.</p> <p>(3) All enclosure doors or hinged panels shall be capable of opening a minimum of 90 degrees.</p> <p>(4) The space in front of the enclosure shall comply with the depth requirements of Table 110.26(A)(1)</p>	
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		<p>there are exposed live parts or exposed wiring operating over 1000 volts, nominal, the high-voltage equipment shall be effectively separated from the space occupied by the low-voltage equipment by a suitable partition, fence, or screen.</p> <p>(B) Clear Spaces. Working space required by this section shall not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, shall be suitably guarded.</p> <p>(C) Entrance to and Egress from Working Space.</p> <p>(1) Minimum Required. At least one entrance of sufficient area shall be provided to give access to and egress from working space about electrical equipment.</p> <p>(2) Large Equipment. For large equipment that contains overcurrent devices, switching devices, or control devices, there shall be one entrance to and egress from the required working space not less than 610 mm (24 in.) wide and 2.0 m (6 1/2 ft) high at each end of the working space. This requirement shall apply to either of the following conditions:</p> <p>(1) For equipment rated 1200 amperes or more and over 1.8 m (6 ft) wide</p> <p>(2) For service disconnecting means installed in accordance with 230.71 where the combined ampere rating is 1200 amperes or more and over 1.8 m (6 ft) wide</p> <p>Open equipment doors shall not impede the entry to or egress from the working space.</p> <p>A single entrance to and egress from the required working space shall be permitted where either of the conditions in 110.26(C)(2)(a) or (C)(2)(b) is met.</p> <p>(a) Unobstructed Egress. Where the location permits a continuous and unobstructed way of egress travel, a single entrance to the working space shall be permitted.</p> <p>(b) Extra Working Space. Where the depth of the working space is twice that required by 110.26(A)(1), a single entrance shall be permitted. It shall be located such that the distance from the equipment to the nearest edge of the entrance is not less than the minimum clear distance specified in Table 110.26(A)(1) for equipment operating at that voltage and in that condition.</p> <p>(3) Personnel Doors. Where equipment rated 800 amperes or more that contains overcurrent devices, switching devices, or control devices is installed and there is a personnel door(s) intended for entrance to and egress from the working space less than 7.6 m (25 ft) from the nearest edge of the working space, the door(s) shall open in the direction of egress and be equipped with listed panic hardware or listed fire exit hardware.</p>	<p>and shall be unobstructed to the floor by fixed cabinets, walls, or partitions. Space reductions in accordance with 110.26(A)(1)(b) shall be permitted. The maximum height of the working space shall be the height necessary to install the equipment in the limited space. A horizontal ceiling structural member or access panel shall be permitted in this space provided the location of weight-bearing structural members does not result in a side reach of more than 150 mm (6 in.) to work within the enclosure.</p> <p>(5) Separation from High-Voltage Equipment. Where switches, cutouts, or other equipment operating at 1000 volts, nominal, or less are installed in a vault, room, or enclosure where there are exposed live parts or exposed wiring operating over 1000 volts, nominal, the high-voltage equipment shall be effectively separated from the space occupied by the low-voltage equipment by a suitable partition, fence, or screen.</p> <p>(6) Grade, Floor, or Working Platform. The grade, floor, or platform in the required working space shall be kept clear, and the floor, grade, or platform in the working space shall be as level and flat as practical for the entire required depth and width of the working space.</p> <p>(B) Clear Spaces. Working space required by this section shall not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, shall be suitably guarded.</p> <p>(C) Entrance to and Egress from Working Space.</p> <p>(1) Minimum Required. At least one entrance of sufficient area shall be provided to give access to and egress from working space about electrical equipment.</p> <p>(2) Large Equipment. For large equipment that contains overcurrent devices, switching devices, or control devices, there shall be one entrance to and egress from the required working space not less than 610 mm (24 in.) wide and 2.0 m (6 1/2 ft) high at each end of the working space. This requirement shall apply to either of the following conditions:</p> <p>(1) For equipment rated 1200 amperes or more and over 1.8 m (6 ft) wide</p> <p>(2) For service disconnecting means installed in accordance with 230.71(B) where the combined ampere rating is 1200 amperes or more and where the combined width is over 1.8 m (6 ft)</p> <p>A single entrance to and egress from the required working space shall be permitted where either of the conditions in 110.26(C)(2)(a) or (C)(2)(b) is met.</p>	
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All switchboards, switchgear, panelboards, and motor control centers shall be located in dedicated spaces and protected from damage.</p> <p><i>Exception: Control equipment that by its very nature or because of other rules of the Code must be adjacent to or within sight of its operating machinery shall be permitted in those locations.</i></p> <p>(1) Indoor. Indoor installations shall comply with 110.26(E)(1)(a) through (E)(1)(d).</p> <p>(a) <i>Dedicated Electrical Space.</i> The space equal to the width and depth of the equipment and extending from the floor to a height of 1.8 m (6 ft) above the equipment or to the structural ceiling, whichever is lower, shall be dedicated to the electrical installation. No piping, ducts, leak protection apparatus, or other equipment foreign to the electrical installation shall be located in this zone.</p> <p><i>Exception: Suspended ceilings with removable panels shall be permitted within the 1.8-m (6-ft) zone.</i></p> <p>(b) <i>Foreign Systems.</i> The area above the dedicated space required by 110.26(E)(1)(a) shall be permitted to contain foreign systems, provided protection is installed to avoid damage to the electrical equipment from condensation, leaks, or breaks in such foreign systems.</p> <p>(c) <i>Sprinkler Protection.</i> Sprinkler protection shall be permitted for the dedicated space where the piping complies with this section.</p> <p>(d) <i>Suspended Ceilings.</i> A dropped, suspended, or similar ceiling that does not add strength to the building structure shall not be considered a structural ceiling.</p> <p>Δ (2) Outdoor. Outdoor installations shall comply with 110.26(E)(2)(a) through (E)(2)(c).</p> <p>(a) <i>Installation Requirements.</i> Outdoor electrical equipment shall be the following:</p> <p>(1) Installed in identified enclosures</p>	<p>(a) <i>Unobstructed Egress.</i> Where the location permits a continuous and unobstructed way of egress travel, a single entrance to the working space shall be permitted.</p> <p>(b) <i>Extra Working Space.</i> Where the depth of the working space is twice that required by 110.26(A)(1), a single entrance shall be permitted. It shall be located such that the distance from the equipment to the nearest edge of the entrance is not less than the minimum clear distance specified in Table 110.26(A)(1) for equipment operating at that voltage and in that condition.</p> <p>(3) Personnel Doors. Where equipment rated 800 amperes or more that contains overcurrent devices, switching devices, or control devices is installed and there is a personnel door(s) intended for entrance to and egress from the working space less than 7.6 m (25 ft) from the nearest edge of the working space, the door(s) shall open at least 90 degrees in the direction of egress and be equipped with listed panic hardware or listed fire exit hardware.</p> <p>Informational Note: See UL 305, Standard For Panic Hardware, for additional information on panic hardware, and see UL 10C, Standard for Safety for Positive Pressure Fire Tests of Door Assemblies, for additional information.</p> <p>(D) Illumination. Illumination shall be provided for all working spaces about service equipment, switchboards, switchgear, enclosed panelboards, or motor control centers installed indoors. Control by automatic means shall not be permitted to control all illumination within the working space. Additional lighting outlets shall not be required where the work space is illuminated by an adjacent light source or as permitted by 210.70(A)(1), Exception No. 1, for switched receptacles.</p> <p><u>In residential installations, illumination shall be provided for all working spaces about panelboards that are located outdoors and contain branch circuits.</u></p> <p>(E) Dedicated Equipment Space. All service equipment, switchboards, switchgear, panelboards, and motor control centers shall be located in dedicated spaces and protected from damage.</p> <p><i>Exception: Control equipment that by its very nature or because of other rules of the Code must be adjacent to or within sight of its operating machinery shall be permitted in those locations.</i></p> <p>(1) Indoor. Indoor installations shall comply with 110.26(E)(1)(a) through (E)(1)(d).</p> <p>(a) <i>Dedicated Electrical Space.</i> The space equal to the width and depth of the equipment and extending from the floor to a height of 1.8 m (6 ft) above the equipment or to the structural ceiling, whichever is lower, shall be dedicated to the electrical installation. No piping, ducts, leak protection apparatus, or other equipment foreign to</p>	
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	110.30	General	<p>110.30 General. Conductors and equipment used on circuits over 1000 volts, nominal, shall comply with Part I of this article and with 110.30 through 110.41, which supplement or modify Part I. In no case shall this part apply to equipment on the supply side of the service point.</p> <p><u>Each cable operating at over 1,000 Volts and installed on customer-owned systems, must be legibly marked in a permanent manner at each termination point and at each point where the cable is accessible. The required marking must use phase designation, operating voltage, and circuit number, if applicable.</u></p> <p><u>Informational Note: WAC 296-46B-110(030), Requirements for Marking Cable Over 1,000 volts, is incorporated herein.</u></p>	<p>110.30 General. Conductors and equipment used on circuits over 1000 volts, nominal, shall comply with Part I of this article and with 110.30 through 110.41, which supplement or modify Part I. In no case shall this part apply to equipment on the supply side of the service point.</p> <p><u>Each cable operating at over 1,000 Volts and installed on customer-owned systems, must be legibly marked in a permanent manner at each termination point and at each point where the cable is accessible. The required marking must use phase designation, operating voltage, and circuit number, if applicable.</u></p> <p><u>Informational Note: WAC 296-46B-110(030), Requirements for Marking Cable Over 1,000 volts, is incorporated herein.</u></p>	<p>WAC amendment</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay onto 2023 SEC.</p> <p>3/28/2024 Committee: Carry forward</p>
Article 200 Use and Identification of Grounded Conductors					
S	200.4	Neutral conductors	<p>200.4 Neutral conductors. Neutral conductors shall be installed in accordance with 200.4(A) and (B).</p> <p>(A) Installation. Neutral conductors shall not be used for more than one branch circuit, for more than one multiwire branch circuit, or for more than one set of ungrounded feeder conductors, unless specifically permitted elsewhere in this Code.</p> <p>(B) Multiple Circuits. Where more than one neutral conductor associated with different circuits is in an enclosure, grounded circuit conductors of each circuit shall be identified or grouped to correspond with the ungrounded circuit conductor(s) by wire markers, cable ties, or similar means in at least one location within the enclosure.</p> <p><i>Exception No. 1: The requirement for grouping or identifying shall not apply if the branch-circuit or feeder conductors enter from on a cable or a raceway unique to the circuit that makes the grouping obvious.</i></p> <p><i>Exception No. 2: The requirements for grouping or identifying shall not apply where branch-circuit conductors pass through a box or conduit body without a loop as described in 314.16(B)(1) or without a splice or termination.</i></p> <p><u>Informational Note: See Sections 210.4 and 215.4 for common neutral exceptions.</u></p>	<p>200.4 Neutral Conductors. Neutral conductors shall be installed in accordance with 200.4(A) and (B).</p> <p>(A) Installation. Neutral conductors shall not be used for more than one branch circuit, for more than one multiwire branch circuit, or for more than one set of ungrounded feeder conductors unless specifically permitted elsewhere in this Code.</p> <p><u>Informational Note: See 215.4 for information on common neutrals.</u></p> <p>(B) Multiple Circuits. Where more than one neutral conductor associated with different circuits is in an enclosure, grounded circuit conductors of each circuit shall be identified or grouped to correspond with the ungrounded circuit conductor(s) by wire markers, cable ties, or similar means in at least one location within the enclosure.</p> <p><i>Exception No. 1: The requirement for grouping or identifying shall not apply if the branch-circuit or feeder conductors enter from a cable or a raceway unique to the circuit that makes the grouping obvious.</i></p> <p><i>Exception No. 2: The requirement for grouping or identifying shall not apply where branch-circuit conductors pass through a box or conduit body without a loop as described in 314.16(B)(1) or without a splice or termination.</i></p> <p><u>Informational Note: See Sections 210.4 and 215.4 for common neutral exceptions.</u></p>	<p>No WAC amendment</p> <p>Seattle proposes: eliminating NEC informational note for 215.4, 210.4. This informational note doesn't have exceptions for neutrals.</p> <p>3/28/2024: Committee: Remove informational note and section from SEC. Don't include in 2023 SEC Quick Reference document.</p>
N	210.8	Ground-Fault Circuit-Interrupter	<p>210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. Ground-fault circuit-interrupter protection for personnel shall be provided as required in 210.8(A) through (F). The ground-fault circuit interrupter shall be installed in a readily accessible location.</p>	<p>210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. A listed Class A GFCI shall provide protection in accordance with 210.8(A) through (F). The GFCI shall be installed in a readily accessible location.</p>	<p>WAC amendment</p> <p>Seattle proposes:</p>

		<p>Protection for Personnel</p>	<p>Informational Note No. 1: See 215.9 for ground-fault circuit-interrupter protection for personnel on feeders.</p> <p>Informational Note No. 2: See 422.5(A) for GFCI requirements for appliances.</p> <p><u>Informational Note No. 3: See 555.9 for GFCI requirements for boat hoists.</u></p> <p>Informational Note No. 4: Additional GFCI requirements for specific circuits and equipment are contained in Chapters 4, 5, and 6.</p> <p>For the purposes of this section, when determining the distance from receptacles the distance shall be measured as the shortest path the supply cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or the shortest path without passing through a window.</p> <p>(A) Dwelling Units. All 125-volt through 250-volt receptacles installed in the locations specified in 210.8(A)(1) through (A)(11) and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel.</p> <p>(1) Bathrooms</p> <p>(2) Garages and ((also)) accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use</p> <p><u>Exception: A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection. A red receptacle with a red cover plate supplying a fire alarm system is not required to have ground-fault circuit-interrupter protection. The receptacle must be identified for use only with the fire alarm system by an identification plate or engraved cover with letters at least 6.4 mm (1/4 in.) high.</u></p> <p><u>Informational Note: WAC 296-46B-210.008 requirements for dwelling unit GFCI protection is incorporated herein with edits.</u></p> <p>(3) Outdoors</p> <p><i>Exception to (3): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snowmelting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.</i></p> <p>(4) Crawl spaces — at or below grade level</p> <p>(5) Basements</p> <p><i>Exception No. 1 to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.</i></p> <p><u>Exception No. 2 to (5): In an unfinished basement, a red receptacle with a red cover plate supplying a fire alarm system is not required to have ground-fault circuit-interrupter protection. The receptacle must be identified for use only with the fire alarm</u></p>	<p><u>Informational Note: See 215.9 for GFCI protection on feeders.</u></p> <p>For the purposes of this section, the distance from receptacles shall be measured as the shortest path the power supply cord connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier.</p> <p>(A) Dwelling Units. All 125-volt through 250-volt receptacles installed in the following locations and supplied by single-phase branch circuits rated 150 volts or less to ground shall have ground-fault circuit-interrupter protection for personnel:</p> <p>(1) Bathrooms</p> <p>(2) Garages and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use</p> <p>(3) Outdoors</p> <p>(4) Crawl spaces — at or below grade level</p> <p>(5) Basements</p> <p>(6) Kitchens</p> <p>(7) Areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking</p> <p>(8) Sinks — where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink</p> <p>(9) Boathouses</p> <p>(10) Bathtubs or shower stalls — where receptacles are installed within 1.8 m (6 ft) of the outside edge of the bathtub or shower stall</p> <p>(11) Laundry areas</p> <p>(12) Indoor damp and wet locations</p> <p><i>Exception No. 1: Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.</i></p> <p><i>Exception No. 2: A receptacle supplying only a permanently installed premises security system shall be permitted to omit ground-fault circuit-interrupter protection.</i></p> <p><i>Exception No. 3: Listed weight-supporting ceiling receptacles (WSCR) utilized in combination with compatible weight-supporting attachment fittings (WSAF) installed for the purpose of supporting a ceiling luminaire or ceiling-suspended fan shall be permitted to omit ground-fault circuit-interrupter protection. If a general-purpose convenience receptacle is integral to the ceiling luminaire or ceiling-suspended fan, GFCI protection shall be provided.</i></p>	<p>Moving WAC Language in the 2020 exception (A)(2) that eliminates the need for GFCI protection for receptacles for permanently installed fire alarm or burglar alarm systems in dwelling unit garages to exception to (A). Expanded the new exception to (A) to include basements. See also new definition for basement in Article 100.</p> <p>Removed 2020 SEC amendment requiring GFCI protection for personnel doing beverage prep as it is now included in this section of the NEC. GFCI protection now required in areas for beverage preparation, food preparation or cooking. Don't necessarily have to have a sink to be one of these areas.</p> <p>OK by committee. 3-38-2024. To get GFCI protection for all food prep areas.</p>
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		<p><u>system by an identification plate or engraved cover with letters at least 1/4" high.</u></p> <p>Informational Note: See 760.41(B) and 760.121(B) for power supply requirements for fire alarm systems.</p> <p>Receptacles installed under the exception to <u>210.8(A)(5)</u> shall not be (considered as meeting) <u>deemed to meet</u> the requirements of 210.52(G).</p> <p>(6) Kitchens — where the receptacles are installed to serve the countertop surfaces</p> <p>(7) Sinks — where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink</p> <p>(8) Boathouses</p> <p>(9) Bathtubs or shower stalls — where receptacles are installed within 1.8 m (6 ft) of the outside edge of the bathtub or shower stall</p> <p>(10) Laundry areas</p> <p><u>Exception to (1) through (3), (5) through (8), and (10): Listed locking support and mounting receptacles utilized in combination with compatible attachment fittings installed for the purpose of serving a ceiling luminaire or ceiling fan shall not be required to be ground-fault circuit-interrupter protected. If a general-purpose convenience receptacle is integral to the ceiling luminaire or ceiling fan, GFCI protection shall be provided.</u></p> <p>Δ (B) Other Than Dwelling Units. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less, installed in the locations specified in 210.8(B)(1) through (B)(12) shall have ground-fault circuit-interrupter protection for personnel.</p> <p>(1) Bathrooms</p> <p>(2) Kitchens or areas with a sink and permanent provisions for either food preparation or cooking <u>including beverage preparation</u></p> <p>(3) Rooftops</p> <p><i>Exception: Receptacles on rooftops shall not be required to be readily accessible other than from the rooftop.</i></p> <p>(4) Outdoors</p> <p><i>Exception No. 1 to (3) and (4): Receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment shall be permitted to be installed in accordance with 426.28 or 427.22, as applicable.</i></p>	<p><i>Exception No. 4: Factory-installed receptacles that are not readily accessible and are mounted internally to bathroom exhaust fan assemblies shall not require GFCI protection unless required by the installation instructions or listing.</i></p> <p>Informational Note: See 760.41(B) and 760.121(B) for power supply requirements for fire alarm systems.</p> <p><u>Exception No. 5 to 210.8 (A) (2) and (5): A receptacle installed in a garage or basement, supplying only a permanently installed fire alarm or burglar alarm system, shall not be required to have ground-fault circuit-interrupter protection. A red receptacle with a red cover plate supplying a fire alarm system is not required to have ground-fault circuit-interrupter protection. The receptacle must be identified for use only with the fire alarm system by an identification plate or engraved cover with letters at least 6.4 mm (1/4 in.) high.</u></p> <p>Informational Note: WAC 296-46B-210 008 requirements for dwelling unit GFCI protection are incorporated herein with edits.</p> <p>Δ (B) Other Than Dwelling Units. All 125-volt through 250-volt receptacles supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, and all receptacles supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less, installed in the following locations shall be provided with GFCI protection:</p> <p>(1) Bathrooms</p> <p>(2) Kitchens</p> <p>(3) Areas with (sinks and) permanent provisions for food preparation, beverage preparation, or cooking</p> <p>(4) Buffet serving areas with permanent provisions for food serving, beverage serving, or cooking</p> <p>(5) Rooftops</p> <p>(6) Outdoors</p> <p>(7) Sinks where receptacles or cord-and-plug-connected fixed or stationary appliances are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink</p> <p>(8) Indoor damp or wet locations</p> <p>(9) Locker rooms with associated showering facilities</p> <p>(10) Garages, accessory buildings, service bays, and similar areas other than vehicle exhibition halls and showrooms</p> <p>(11) Crawl spaces at or below grade level</p> <p>(12) Unfinished areas of basements</p>	
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W	210.11	Branch circuits	None	<p>210.11 Branch Circuits Required. Branch circuits for lighting and for appliances, including motor-operated appliances, shall be provided to supply the loads calculated in accordance with 220.10. In addition, branch circuits shall be provided for specific loads not covered by 220.10 where required elsewhere in this Code and for dwelling unit loads as specified in 210.11(C).</p>	<p>WAC section.</p> <p>Seattle proposes:</p> <p>Adding dwelling unit branch circuit requirements for unfinished</p>

				<p>(A) Number of Branch Circuits. The minimum number of branch circuits shall be determined from the total calculated load and the size or rating of the circuits used. In all installations, the number of circuits shall be sufficient to supply the load served. In no case shall the load on any circuit exceed the maximum specified by 220.11.</p> <p>(B) Load Evenly Proportioned Among Branch Circuits. Where the load is calculated on the basis of volt-amperes per square meter or per square foot, the wiring system up to and including the branch-circuit panelboard(s) shall be provided to serve not less than the calculated load. This load shall be evenly proportioned among multioutlet branch circuits within the panelboard(s). Branch-circuit overcurrent devices and circuits shall be required to be installed only to serve the connected load.</p> <p>(C) Dwelling Units.</p> <p>(1) Small-Appliance Branch Circuits. In addition to the number of branch circuits required by other parts of this section, two or more 20-ampere small-appliance branch circuits shall be provided for all receptacle outlets specified by 210.52(B).</p> <p>(2) Laundry Branch Circuits. In addition to the number of branch circuits required by other parts of this section, at least one additional 20-ampere branch circuit shall be provided to supply the laundry receptacle outlet(s) required by 210.52(F). This circuit shall have no other outlets.</p> <p>(3) Bathroom Branch Circuits. In addition to the number of branch circuits required by other parts of this section, one or more 120-volt, 20-ampere branch circuit shall be provided to supply bathroom(s) receptacle outlet(s) required by 210.52(D) and any countertop and similar work surface receptacle outlets. Such circuits shall have no other outlets.</p> <p><i>Exception: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with 210.23(B)(1) and (B)(2).</i></p> <p>(4) Garage Branch Circuits. In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets, including those required by 210.52(G)(1) for attached garages and in detached garages with electric power. This circuit shall have no other outlets.</p> <p>Additional branch circuits rated 15 amperes or greater shall be permitted to serve receptacle outlets other than those required by 210.52(G)(1).</p> <p><i>Exception No. 1: This circuit shall be permitted to supply outdoor receptacle outlets.</i></p> <p><i>Exception No. 2: Where the 20-ampere circuit supplies a single vehicle bay garage, outlets for other equipment</i></p>	<p>spaces from <u>WAC-46B-210.011</u>. Has not been included in the SEC before.</p> <p>See 210.11(C)(5) Other Branch Circuit Requirements</p> <p>Committee agrees. Add in WAC language. OK, 3-28-2024. Was in 2017 SEC.</p>
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S	210.12	Arc-Fault Circuit-Interrupter Protection.	<p>210.12 Arc-Fault Circuit-Interrupter Protection. Arc-fault circuit-interrupter protection shall be provided as required in 210.12(A), (B), (C), and (D). The arc-fault circuit interrupter shall be installed in a readily accessible location.</p> <p>Δ (A) Dwelling Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6):</p> <p>(1) A listed combination-type arc-fault circuit interrupter installed to provide protection of the entire branch circuit listed branch-feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.</p> <p>(2) A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:</p> <p>a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.</p> <p>b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.</p> <p>c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.</p> <p>(3) A listed outlet branch-circuit-type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:</p> <p>a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.</p> <p>b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first</p>	<p>210.12 Arc-Fault Circuit-Interrupter Protection. Arc-fault circuit-interrupter (AFCI) protection shall be installed in accordance with 210.12(B) through (E) by any of the means described in 210.12(A)(1) through (A)(6). The AFCI shall be listed and installed in a readily accessible location.</p> <p>Δ (A) Means of Protection. AFCI protection shall be provided by any of the following means:</p> <p>(1) A listed combination-type AFCI installed to provide protection of the entire branch circuit.</p> <p>(2) A listed branch-feeder-type AFCI installed at the origin of the branch circuit in combination with a listed outlet branch-circuit-type AFCI installed on the branch circuit at the first outlet box, which shall be marked to indicate that it is the first outlet of the branch circuit.</p> <p>(3) A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit-type AFCI installed on the branch circuit at the first outlet box if all of the following conditions are met:</p> <p>a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit AFCI.</p> <p>b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.</p> <p>c. The first outlet box shall be marked to indicate that it is the first outlet of the branch circuit.</p> <p>(4) A listed outlet branch-circuit-type AFCI installed on the branch circuit at the first outlet in combination with a listed</p>	<p>No WAC amendment</p> <p>Seattle proposes: Moving some items around and deleting redundancies from new NEC organization of this section.</p> <p>Adding back in (A)(2) that was missed in the 2020 edition of the NEC.</p>

		<p>outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.</p> <p>c. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.</p> <p>d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and shall be listed as such.</p> <p>(5) If metal raceway, metal wireways, metal auxiliary gutters, or Type MC, or Type AC cable meeting the applicable requirements of 250.118, with metal boxes, metal conduit bodies, and metal enclosures are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit-type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.</p> <p>(6) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit-type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.</p> <p><i>Exception: AFCI protection shall not be required for an individual branch circuit supplying a fire alarm system installed in accordance with 760.41(B) or 760.121(B). The branch circuit shall be installed in a metal raceway, metal auxiliary gutter, steel-armored cable, Type MC or Type AC, meeting the applicable requirements of 250.118, with metal boxes, conduit bodies, and enclosures.</i></p> <p>Informational Note No. 1: For information on combination-type and branch/feeder-type arc-fault circuit interrupters, see UL 1699-2011, Standard for Arc-Fault Circuit Interrupters. For information on outlet branch-circuit type arc-fault circuit interrupters, see UL Subject 1699A, Outline of Investigation for Outlet Branch Circuit Arc-Fault Circuit-Interrupters. For information on system combination AFCIs, see UL Subject 1699C, Outline of Investigation for System Combination ArcFault Circuit Interrupters.</p> <p>Informational Note No. 2: See 29.6.3(5) of NFPA 72-2013, National Fire Alarm and Signaling Code, for information related to secondary power-supply requirements for smoke alarms installed in dwelling units.</p> <p>Informational Note No. 3: See 760.41(B) and 760.121(B) for power-supply requirements for fire alarm systems.</p> <p>(B) Dormitory Units, Boarding Houses, and Congregate Living Facilities. All 120-volt, single-phase, 15- and 20- ampere branch circuits supplying outlets and devices installed in ((dormitory unit)) bedrooms, living rooms, hallways, closets, bathrooms, and similar rooms of <u>dormitory units, boarding houses, and congregate living facilities</u> shall be protected by any of the means described in 210.12(A)(1) through (6).</p> <p>(C) Guest Rooms, Guest Suites, and Patient Sleeping Rooms in Nursing Homes and Limited-Care Facilities. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets and devices installed in guest rooms and guest suites of hotels and motels and <u>patient sleeping rooms in nursing homes and limited-care facilities</u> shall be protected by any of the means described in 210.12(A)(1) through (6).</p> <p>(D) Branch Circuit Extensions or Modifications — Dwelling Units, Dormitory Units, ((and)) Guest Rooms, ((and)) Guest Suites, Boarding Houses, and Congregate Living Facilities. Where branch circuit wiring for any of the areas specified in 210.12(A), (B), or (C) is modified, replaced, or extended, the branch circuit shall be protected by one of the following:</p>	<p>branch-circuit overcurrent protective device if all of the following conditions are met:</p> <p>a. The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit <u>AFCI</u>.</p> <p>b. The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 15.2 m (50 ft) for a 14 AWG conductor or 21.3 m (70 ft) for a 12 AWG conductor.</p> <p>c. The first outlet box shall be marked to indicate that it is the first outlet of the <u>branch</u> circuit.</p> <p>d. The combination of the branch-circuit overcurrent device and outlet branch-circuit AFCI shall be identified as meeting the requirements for a system combination-type AFCI and listed as such.</p> <p>(5) If metal raceway, metal wireways, metal auxiliary gutters, or Type MC or Type AC cable meeting the applicable requirements of 250.118, with metal boxes, metal conduit bodies, and metal enclosures are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit-type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.</p> <p>(6) Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 50 mm (2 in.) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, it shall be permitted to install a listed outlet branch-circuit-type AFCI at the first outlet to provide protection for the remaining portion of the branch circuit.</p> <p>Informational Note: See UL 1699-2011, Standard for Arc-Fault Circuit-Interrupters, for information on combination-type and branch/feeder-type AFCI devices. See UL Subject 1699A, Outline of Investigation for Outlet Branch Circuit Arc-Fault Circuit-Interrupters, for information on outlet branch-circuit type AFCI devices. See UL Subject 1699C, Outline of Investigation for System Combination Arc-Fault Circuit Interrupters, for information on system combination AFCIs.</p> <p>N (B) Dwelling Units. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):</p> <ol style="list-style-type: none"> (1) Kitchens (2) Family rooms (3) Dining rooms (4) Living rooms 	
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			<p>(1) By any of the means described in 210.12(A)(1) through (A)(6)</p> <p>(2) A listed outlet branch-circuit-type AFCI located at the first receptacle outlet of the existing branch circuit</p> <p><i>Exception: AFCI protection shall not be required where the extension of the existing branch circuit conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices, other than splicing devices. This measurement shall not include the conductors inside an enclosure, cabinet, or junction box.</i></p>	<p>(5) Parlors</p> <p>(6) Libraries</p> <p>(7) Dens</p> <p>(8) Bedrooms</p> <p>(9) Sunrooms</p> <p>(10) Recreation rooms</p> <p>(11) Closets</p> <p>(12) Hallways</p> <p>(13) Laundry areas</p> <p>(14) Similar areas</p> <p><i>Exception No. 1: AFCI protection shall not be required for an individual branch circuit supplying a fire alarm system installed in accordance with 760.41(B) or 760.121(B). The branch circuit shall be installed in a metal raceway, metal auxiliary gutter, steel-armored cable, or Type MC or Type AC cable meeting the applicable requirements of 250.118, with metal boxes, conduit bodies, and enclosures.</i></p> <p><i>Exception No. 2: AFCI protection shall not be required for the individual branch circuit supplying an outlet for arc welding equipment in a dwelling unit until January 1, 2025.</i></p> <p>Informational Note No. 1: See NFPA 72-2022, National Fire Alarm and Signaling Code, 29.9.4(5), for information on secondary power source requirements for smoke alarms installed in dwelling units.</p> <p>Informational Note No. 2: See 760.41(B) and 760.121(B) for power source requirements for fire alarm systems.</p> <p>(C) Dormitory Units, Boarding Houses, and Congregate Living Facilities. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):</p> <p>(1) Bedrooms</p> <p>(2) Living rooms</p> <p>(3) Hallways</p> <p>(4) Closets</p> <p>(5) Bathrooms</p> <p>(6) Similar rooms</p> <p>(D) Other Occupancies. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in</p>	
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				<p>the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):</p> <ul style="list-style-type: none"> (1) Guest rooms and guest suites of hotels and motels (2) Areas used exclusively as patient sleeping rooms in nursing homes and limited-care facilities (3) Areas designed for use exclusively as sleeping quarters in fire stations, police stations, ambulance stations, rescue stations, ranger stations, and similar locations <p>Δ (E) Branch Circuit Wiring Extensions, Modifications, or Replacements. Dwelling Units, Dormitory Units, (and) Guest Rooms, (and) Guest Suites, Boarding Houses, and Congregate Living Facilities. If branch-circuit wiring for any of the areas specified in 210.12(B), (C), or (D) is modified, replaced, or extended, the branch circuit shall be protected by one of the following:</p> <ul style="list-style-type: none"> (1) By any of the means described in 210.12(A)(1) through (A)(6) (2) A listed outlet branch-circuit-type AFCI located at the first receptacle outlet of the existing branch circuit <p><i>Exception: AFCI protection shall not be required where the extension of the existing branch-circuit conductors is not more than 1.8 m (6 ft) and does not include any additional outlets or devices, other than splicing devices. This measurement shall not include the conductors inside an enclosure, cabinet, or junction box.</i></p>	
W	210.13	Ground-fault protection of Equipment	None	<p>Δ 210.13 Ground-Fault Protection of Equipment. Each branch-circuit disconnecting means rated 1000 amperes or more and installed on solidly grounded wye electrical systems of more than 150 volts to ground, but not exceeding 1000 volts phase-to-phase, shall be provided with ground-fault protection of equipment in accordance with 230.95.</p> <p><u>Equipment ground fault protection systems required by the NEC must be tested prior to being placed into service to verify proper installation and operation of the system as determined by the manufacturer's published instructions. A firm having qualified personnel and proper equipment must perform the tests required. A copy of the manufacturer's performance testing instructions and a written performance acceptance test record signed by the person performing the test must be available at the time of inspection. The performance acceptance test record must include test details including, but not limited to, all trip settings and measurements taken during the test.</u></p> <p>Informational Note 1: See 517.17 for requirements on buildings that contain health care occupancies.</p> <p>Informational Note 2: The requirements of WAC 296-46B-210 013 are incorporated herein</p> <p><i>Exception No. 1: This section shall not apply to a disconnecting means for a continuous industrial process where a nonorderly shutdown will introduce additional or increased hazards.</i></p>	<p>WAC Amendment</p> <p>Seattle proposes: Incorporating WAC 210.13.</p> <p>Committee OK--3-28-2024</p> <p>Pat to check other instances in the rest of the code.</p>

				<p><i>Exception No. 2: This section shall not apply if ground-fault protection of equipment is provided on the supply side of the branch circuit and on the load side of any transformer supplying the branch circuit.</i></p>	
S, W	210.25		<p>210.25 Branch Circuits in Buildings with More Than One Occupancy.</p> <p>(A) Dwelling Unit Branch Circuits. Branch circuits in each dwelling unit shall supply only loads within that dwelling unit or loads associated only with that dwelling unit.</p> <p>(B) Common Area Branch Circuits. Branch circuits installed for lighting, central alarm, signal, communications, or other purposes for public or common areas of a two-family dwelling, a multifamily dwelling, or a multi-occupancy building shall not be supplied from equipment that supplies an individual dwelling unit or tenant space.</p> <p><i>Exception to B: lighting for common exterior areas not exceeding 50 watts and controlled by a photocell and occupancy sensor.</i></p> <p>Informational Note: Examples of public or common areas include, but are not limited to, lobbies, corridors, stairways, laundry rooms, roofs, elevators, washrooms, store rooms, driveways (parking), and mechanical rooms.</p> <p>(C) Shared Sump Pump, Septic or Water Well. Branch circuits supplying loads for sump pump, septic or water well systems that are shared by no more than two dwelling units may be supplied from either of the two dwelling units if approved by the authority having jurisdiction and local health department.</p> <p>Informational Note: WAC 296-46B-210.25, requirements for common area branch circuits for shared septic or water well systems, is incorporated herein with edits.</p>	<p>210.25 Branch Circuits in Buildings and Development Site Parcels with More Than One Occupancy.</p> <p>(A) Dwelling Unit Branch Circuits. Branch circuits in each dwelling unit shall supply only loads within that dwelling unit or loads associated only with that dwelling unit.</p> <p>(B) Common Area Branch Circuits. Branch circuits installed for lighting, central alarm, signal, communications, or other purposes for public or common areas of a two-family dwelling, a multifamily dwelling, multi-occupancy building, <u>or development site parcel with more than one dwelling unit</u>, shall not be supplied from equipment that supplies an individual dwelling unit or tenant space.</p> <p><i>Exception to B: lighting for common exterior areas not exceeding 50 watts and controlled by a photocell and occupancy sensor.</i></p> <p>Informational Note: Examples of public or common areas include, but are not limited to, lobbies, corridors, stairways, laundry rooms, roofs, elevators, washrooms, storerooms, driveways (parking), and mechanical rooms.</p> <p>(C) Shared Sump Pump, Septic or Water Well. Branch circuits supplying loads for sump pump, septic or water well systems that are shared by no more than two dwelling units, <u>not including accessory dwelling units</u>, may be supplied from either of the two dwelling units if approved by the authority having jurisdiction and local health department.</p> <p>Informational Note: WAC 296-46B-210.25, requirements for common area branch circuits for shared septic or water well systems, is incorporated herein with edits.</p>	<p>WAC amendment</p> <p>Seattle proposes: adding dev sites to scope of 210.25 so it can be applied to common loads on dev sites with more than 1 building. NEC language as written only applies to common loads within a building.</p> <p>Development Site Parcel is the language used by Land Use in tips for dev sites.</p> <p>Committee OK—3-28-2027</p>
			<p>210.52 Dwelling Unit Receptacle Outlets. This section provides requirements for 125-volt, 15- and 20-ampere receptacle outlets. The receptacles required by this section shall be in addition to any receptacle that is as follows:</p> <ol style="list-style-type: none"> (1) Part of a luminaire or appliance, or (2) Controlled by a listed wall-mounted control device in accordance with 210.70(A)(1), Exception No. 1, or (3) Located within cabinets or cupboards, or (4) Located more than 1.7 m (5 1/2 ft) above the floor <p>Permanently installed electric baseboard heaters equipped with factory-installed receptacle outlets or outlets provided as a separate assembly by the manufacturer shall be permitted as the required outlet or outlets for the wall space utilized by such permanently installed heaters. Such receptacle outlets shall not be connected to the heater circuits.</p> <p>Informational Note: Listed baseboard heaters include instructions that may not permit their installation below receptacle outlets.</p> <p><u>A dwelling unit, required by Chapter 11 of the Seattle Building Code to be an Accessible Unit, shall comply with the clearance and reach</u></p>	<p>210.52 Dwelling Unit Receptacle Outlets. This section provides requirements for 125-volt, 15- and 20-ampere receptacle outlets. The receptacles required by this section shall be in addition to any receptacle that is as follows:</p> <ol style="list-style-type: none"> (1) Part of a luminaire or appliance, or (2) Controlled by a listed wall-mounted control device in accordance with 210.70(A)(1), Exception No. 1, or (3) Located within cabinets or cupboards, or (4) Located more than 1.7 m (5 1/2 ft) above the floor <p>Permanently installed electric baseboard heaters equipped with factory-installed receptacle outlets or outlets provided as a separate assembly by the manufacturer shall be permitted as the required outlet or outlets for the wall space utilized by such permanently installed heaters. Such receptacle outlets shall not be connected to the heater circuits.</p> <p>Informational Note: Listed baseboard heaters include instructions that may not permit their installation below receptacle outlets.</p>	<p>WAC amendment</p> <p>Seattle proposes:</p> <p>4/3/2024 Committee: Adopt WAC language that does not require the provision of receptacles at islands or peninsulas. Adopt after informational note is included.</p> <p>Foss to add informational note</p> <p>Not doing: Discussed defining decks and balconies better, decided to not edit</p>

		<p>requirements contained in Seattle Building Code and as shown in Informative Annex J of the 2020 National Electric Code.</p> <p>(A) General Provisions. In every kitchen, family room, dining room, living room, parlor, library, den, sunroom, bedroom, recreation room, or similar room or area of dwelling units, receptacle outlets shall be installed in accordance with the general provisions specified in 210.52(A)(1) through (A)(4).</p> <p>(1) Spacing. Receptacles shall be installed such that no point measured horizontally along the floor line of any wall space is more than 1.8 m (6 ft) from a receptacle outlet.</p> <p>(2) Wall Space. As used in this section, a wall space shall include the following:</p> <p>(1) Any space 600 mm (2 ft) or more in width (including space measured around corners) and unbroken along the floor line by doorways and similar openings, fireplaces, window seating and fixed cabinets ((that do not have countertops or similar work surfaces)) <u>or bookcases that extend from the floor to a level at least 1.7 m (5 ft 6 inches) above the floor, and similar openings. Any outlet eliminated by window seating, bookcases, cabinets, or other permanent part of the dwelling configuration or finish must be installed elsewhere within the room</u></p> <p>(2) The space occupied by fixed panels in walls, excluding sliding panels</p> <p>(3) The space afforded by fixed room dividers, such as freestanding bar-type counters or railings</p> <p><small>Informational Note: WAC 296-46B-210.052(A)(2)((6))(7) explaining similar openings is incorporated herein with edits.</small></p> <p>(3) Floor Receptacles. Receptacle outlets in or on floors shall not be counted as part of the required number of receptacle outlets unless located within 450 mm (18 in.) of the wall.</p> <p>(4) Countertop Receptacles and Similar Work Surface Receptacle Outlets. Receptacles installed for countertop and similar work surfaces as specified in 210.52(C) shall not be considered as the receptacles outlets required by 210.52(A).</p> <p>(B) Small Appliances.</p> <p>(1) Receptacle Outlets Served. In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by 210.11(C)(1) shall serve all wall and floor receptacle outlets covered by 210.52(A), all countertop outlets covered by 210.52(C), and receptacle outlets for refrigeration equipment.</p> <p><i>Exception No. 1: In addition to the required receptacles specified by 210.52, switched receptacles supplied from a general-purpose 15- or 20-ampere branch circuit as required in 210.70(A)(1), Exception No. 1, shall be permitted.</i></p>	<p><u>A dwelling unit, required by Chapter 11 of the Seattle Building Code to be an Accessible Unit, shall comply with the clearance and reach requirements contained in Seattle Building Code and as shown in Informative Annex J of the 2020 National Electric Code.</u></p> <p>(A) General Provisions. In every kitchen, family room, dining room, living room, parlor, library, den, sunroom, bedroom, recreation room, or similar room or area of dwelling units, receptacle outlets shall be installed in accordance with the general provisions specified in 210.52(A)(1) through (A)(4).</p> <p>(1) Spacing. Receptacles shall be installed such that no point measured horizontally along the floor line of any wall space is more than 1.8 m (6 ft) from a receptacle outlet.</p> <p>(2) Wall Space. As used in this section, a wall space shall include the following:</p> <p>(1) Any space 600 mm (2 ft) or more in width (including space measured around corners) and unbroken along the floor line by doorways and similar openings, fireplaces, <u>stationary appliances, and fixed cabinets</u> ((that do not have countertops or similar work surfaces)) <u>or bookcases that extend from the floor to a level at least 1.7 m (5 ft 6 inches) above the floor, and similar openings. Any outlet eliminated by window seating, bookcases, cabinets, or other permanent part of the dwelling configuration or finish must be installed elsewhere within the room</u></p> <p>(2) The space occupied by fixed panels in walls, excluding sliding panels</p> <p>(3) The space afforded by fixed room dividers, such as freestanding bar-type counters or railings</p> <p><small>Informational Note: WAC 296-46B-210.052(A)(2)((6))(7) explaining similar openings is incorporated herein with edits.</small></p> <p>(3) Floor Receptacles. Receptacle outlets in or on floors shall not be counted as part of the required number of receptacle outlets unless located within 450 mm (18 in.) of the wall.</p> <p>(4) Countertop and Similar Work Surface Receptacle Outlets. Receptacles installed for countertop and similar work surfaces as specified in 210.52(C) shall not be considered as the receptacle outlets required by 210.52(A).</p> <p>(B) Small Appliances.</p> <p>(1) Receptacle Outlets Served. In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by 210.11(C)(1) shall serve all wall and floor receptacle outlets covered by 210.52(A), all countertop outlets covered by 210.52(C), and receptacle outlets for refrigeration equipment.</p>	
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Receptacles installed in a kitchen to serve countertop surfaces shall be supplied by not fewer than two small-appliance branch circuits, either or both of which shall also be permitted to supply receptacle outlets in the same kitchen and in other rooms specified in 210.52(B)(1). Additional small appliance branch circuits shall be permitted to supply receptacle outlets in the kitchen and other rooms specified in 210.52(B)(1). No small-appliance branch circuit shall serve more than one kitchen.</p> <p>(C) Countertops and Work Surfaces. In kitchens, pantries, breakfast rooms, dining rooms, and similar areas of dwelling units, receptacle outlets for countertop and work surfaces that are 300 mm (12 in.) or wider shall be installed in accordance with 210.52(C)(1) through (C)(3) and shall not be considered as the receptacle outlets required by 210.52(A).</p> <p>For the purposes of this section, where using multioutlet assemblies, each 300 mm (12 in.) of multioutlet assembly containing two or more receptacles installed in individual or continuous lengths shall be considered to be one receptacle outlet.</p> <p>Δ (1) Wall Spaces. Receptacle outlets shall be installed so that no point along the wall line is more than 600 mm (24 in.) measured horizontally from a receptacle outlet in that space.</p> <p><i>Exception: Receptacle outlets shall not be required directly behind a range, counter-mounted cooking unit, or sink in the installation described in Figure 210.52(C)(1).</i></p> <p>N (2) Island and Peninsular Countertops and Work Surfaces. Receptacle outlets shall be installed in accordance with 210.52(C)(2)(a) and (C)(2)(b).</p> <p>(a) At least one receptacle outlet shall be provided for the first 0.84 m² (9 sq. ft), or fraction thereof, of the countertop or work surface. A receptacle outlet shall be provided for every additional 1.7 m² (18 ft²), or fraction thereof, of the countertop or work surface.</p> <p>(b) At least one receptacle outlet shall be located within 600 mm (2 ft) of the outer end of a peninsular countertop or work surface. Additional required</p>	<p><i>Exception No. 1: In addition to the required receptacles specified by 210.52, switched receptacles supplied from a general-purpose 15- or 20-ampere branch circuit shall be permitted in accordance with 210.70(A)(1), Exception No. 1.</i></p> <p><i>Exception No. 2: In addition to the required receptacles specified by 210.52, a receptacle outlet to serve a specific appliance shall be permitted to be supplied from an individual branch circuit rated 15 amperes or greater.</i></p> <p>(2) No Other Outlets. The two or more small-appliance branch circuits specified in 210.52(B)(1) shall have no other outlets.</p> <p><i>Exception No. 1: A receptacle installed solely for the electrical supply to and support of an electric clock in any of the rooms specified in 210.52(B)(1) shall be permitted to be served by a small-appliance branch circuit.</i></p> <p><i>Exception No. 2: Receptacles installed to provide power for supplemental equipment and lighting on gas-fired ranges, ovens, or counter-mounted cooking units shall be permitted to be served by a small-appliance branch circuit.</i></p> <p>(3) Kitchen Receptacle Requirements. Receptacles installed in a kitchen to serve countertop surfaces shall be supplied by not fewer than two small-appliance branch circuits, either or both of which shall also be permitted to supply receptacle outlets in the same kitchen and in other rooms specified in 210.52(B)(1). Additional small-appliance branch circuits shall be permitted to supply receptacle outlets in the kitchen and other rooms specified in 210.52(B)(1). No small-appliance branch circuit shall serve more than one kitchen.</p> <p>(C) Countertops and Work Surfaces. In kitchens, pantries, breakfast rooms, dining rooms, and similar areas of dwelling units, receptacle outlets for countertop and work surfaces that are 300 mm (12 in.) or wider shall be installed in accordance with 210.52(C)(1) through (C)(3) and shall not be considered as the receptacle outlets required by 210.52(A).</p> <p>For the purposes of this section, where using multioutlet assemblies, each 300 mm (12 in.) of multioutlet assembly containing two or more receptacles installed in individual or continuous lengths shall be considered to be one receptacle outlet.</p> <p>(1) Wall Spaces. Receptacle outlets shall be installed so that no point along the wall line is more than 600 mm (24 in.) measured horizontally from a receptacle outlet in that space. The location of the receptacles shall be in accordance with 210.52(C)(3).</p>	
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Receptacles installed below a countertop or work surface shall not be located where the countertop or work surface extends more than 150 mm (6 in.) beyond its support base.</p> <p>Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or rangetops as covered in 210.52(C)(1), Exception, or appliances occupying assigned spaces shall not be considered as these required outlets.</p> <p>Informational Note No. 1: See 406.5(E) and 406.5(G) for installation of receptacles in countertops and 406.5(F) and 406.5(G) for installation of receptacles in work surfaces. See 380.10 for installation of multioutlet assemblies.</p> <p>Informational Note No. 2: See Annex J and ANSI/ICC A117.1-2009, Standard on Accessible and Usable Buildings and Facilities.</p> <p>(D) Bathrooms. At least one receptacle outlet shall be installed in bathrooms within 900 mm (3 ft) of the outside edge of each basin. The receptacle outlet shall be located on a wall or partition that is adjacent to the basin or basin countertop, located on the countertop, or installed on the side or face of the basin cabinet. In no case shall the receptacle be located more than 300 mm (12 in.) below the top of the basin or basin countertop. Receptacle outlet assemblies listed for use in countertops shall be permitted to be installed in the countertop.</p> <p>Informational Note: See 406.5(E) and 406.5(G) for requirements for installation of receptacles in countertops.</p> <p>(E) Outdoor Outlets. Outdoor receptacle outlets shall be installed in accordance with 210.52(E)(1) through (E)(3).</p> <p>Informational Note: See 210.8(A)(3).</p> <p>(1) One-Family and Two-Family Dwellings. For a one-family dwelling and each unit of a two-family dwelling that is at grade level, at least one receptacle outlet readily accessible from grade</p>	<p><i>Exception No. 1: Receptacle outlets shall not be required directly behind a range, counter-mounted cooking unit, or sink in the installation described in Figure 210.52(C)(1).</i></p> <p><i>Exception No. 2: Where a required receptacle outlet cannot be installed in the wall areas shown in Figure 210.52(C)(1), the receptacle outlet shall be permitted to be installed as close as practicable to the countertop area to be served. The total number of receptacle outlets serving the countertop shall not be less than the number needed to satisfy 210.52(C)(1). These outlets shall be located in accordance with 210.52(C)(3).</i></p> <p>Δ (2) Island and Peninsular Countertops and Work Surfaces. Receptacle outlets, if installed to serve an island or peninsular countertop or work surface, shall be installed in accordance with 210.52(C)(3). If a receptacle outlet is not provided to serve an island or peninsular countertop or work surface, no future provisions to do so are required. provisions shall be provided at the island or peninsula for future addition of a receptacle outlet to serve the island or peninsular countertop or work surface.</p> <p>Δ (3) Receptacle Outlet Location. Receptacle outlets shall be located in one or more of the following:</p> <p>(1) On or above, but not more than 500 mm (20 in.) above, a countertop or work surface</p> <p>(2) In a countertop using receptacle outlet assemblies listed for use in countertops</p> <p>(3) In a work surface using receptacle outlet assemblies listed for use in work surfaces or listed for use in countertops</p> <p>Receptacle outlets rendered not readily accessible by appliances fastened in place, appliance garages, sinks, or rangetops as covered in 210.52(C)(1), Exception No. 1, or appliances occupying assigned spaces shall not be considered as these required outlets.</p> <p>Informational Note No. 1: See 406.5(E) for installation of receptacles in countertops and 406.5(F) for installation of receptacles in work surfaces. See 380.10 for installation of multioutlet assemblies.</p> <p>Informational Note No. 2: See Informative Annex J and ANSI/ICC A117.1-2009, Standard on Accessible and Usable Buildings and Facilities, for additional information.</p> <p>(D) Bathrooms. At least one receptacle outlet shall be installed in bathrooms within 900 mm (3 ft) of the outside edge of each sink. The receptacle outlet shall be located on a wall or partition that is adjacent to the sink or sink countertop, located on the countertop, or installed on the side or face of the sink cabinet. In no case shall the receptacle be located more than 300 mm (12 in.) below the top of the</p>	
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		<p>and not more than 2.0 m (6 1/2 ft) above grade level shall be installed at the front and back of the dwelling.</p> <p>(2) Multifamily Dwellings. For each dwelling unit of a multifamily dwelling where the dwelling unit is located at grade level and provided with individual exterior entrance/egress, at least one receptacle outlet readily accessible from grade and not more than 2.0 m (6 1/2 ft) above grade level shall be installed.</p> <p>(3) Balconies, Decks, and Porches. Balconies, decks, and porches that are within 102 mm (4 in.) horizontally of the dwelling unit shall have at least one receptacle outlet accessible from the balcony, deck, or porch. The receptacle outlet shall not be located more than 2.0 m (6 1/2 ft) above the balcony, deck, or porch walking surface.</p> <p>(F) Laundry Areas. In dwelling units, at least one receptacle outlet shall be installed in areas designated for the installation of laundry equipment.</p> <p><i>Exception No. 1: A receptacle for laundry equipment shall not be required in a dwelling unit of a multifamily building where laundry facilities are provided on the premises for use by all building occupants.</i></p> <p><i>Exception No. 2: A receptacle for laundry equipment shall not be required in other than one-family dwellings where laundry facilities are not to be installed or permitted.</i></p> <p>(G) Basements, Garages, and Accessory Buildings. For one- and two-family dwellings, and multifamily dwellings, at least one receptacle outlet shall be installed in the areas specified in 210.52(G)(1) through (G)(3). These receptacles shall be in addition to receptacles required for specific equipment.</p> <p>(1) Garages. In each attached garage and in each detached garage with electric power, at least one receptacle outlet shall be installed in each vehicle bay and not more than 1.7 m (5 1/2 ft) above the floor.</p> <p><i>Exception: Garage spaces not attached to an individual dwelling unit of a multifamily dwelling shall not require a receptacle outlet in each vehicle bay.</i></p> <p>(2) Accessory Buildings. In each accessory building with electric power.</p> <p>(3) Basements. In each separate unfinished portion of a basement.</p> <p>(H) Hallways. In dwelling units, hallways of 3.0 m (10 ft) or more in length shall have at least one receptacle outlet.</p> <p>As used in this subsection, the hallway length shall be considered the length along the centerline of the hallway without passing through a doorway.</p> <p>(I) Foyers. Foyers that are not part of a hallway in accordance with 210.52(H) and that have an area that is greater than 5.6 m² (60 ft²) shall have a receptacle(s) located in each wall space 900 mm (3 ft) or more in</p>	<p>sink or sink countertop. Receptacle outlet assemblies listed for use in countertops shall be permitted to be installed in the countertop.</p> <p>Informational Note: See 406.5(E) and 406.5(G) for requirements on installation of receptacles in countertops.</p> <p>(E) Outdoor Outlets. Outdoor receptacle outlets shall be installed in accordance with 210.52(E)(1) through (E)(3).</p> <p>(1) One-Family and Two-Family Dwellings. For a one-family dwelling and each unit of a two-family dwelling that is at grade level, at least one receptacle outlet readily accessible from grade and not more than 2.0 m (6 1/2 ft) above grade level shall be installed at the front and back of the dwelling.</p> <p>(2) Multifamily Dwellings. For each dwelling unit of a multifamily dwelling where the dwelling unit is located at grade level and provided with individual exterior entrance/egress, at least one receptacle outlet readily accessible from grade and not more than 2.0 m (6 1/2 ft) above grade level shall be installed.</p> <p>(3) Balconies, Decks, and Porches. Balconies, decks, and porches that are within 102 mm (4 in.) horizontally of the dwelling unit shall have at least one receptacle outlet accessible from the balcony, deck, or porch. The receptacle outlet shall not be located more than 2.0 m (6 1/2 ft) above the balcony, deck, or porch walking surface.</p> <p>(F) Laundry Areas. In dwelling units, at least one receptacle outlet shall be installed in areas designated for the installation of laundry equipment.</p> <p><i>Exception No. 1: A receptacle for laundry equipment shall not be required in a dwelling unit of a multifamily building where laundry facilities are provided on the premises for use by all building occupants.</i></p> <p><i>Exception No. 2: A receptacle for laundry equipment shall not be required in other than one-family dwellings where laundry facilities are not to be installed or permitted.</i></p> <p>(G) Basements, Garages, and Accessory Buildings. For one- and two-family dwellings, and multifamily dwellings, at least one receptacle outlet shall be installed in the areas specified in 210.52(G)(1) through (G)(3). These receptacles shall be in addition to receptacles required for specific equipment. Receptacles supplying only a permanently installed premises security system shall not be considered as meeting these requirements.</p> <p>(1) Garages. In each attached garage and in each detached garage with electric power, at least one receptacle outlet shall be installed in each vehicle bay and not more than 1.7 m (5 1/2 ft) above the floor.</p> <p><i>Exception: Garage spaces not attached to an individual dwelling unit of a multifamily dwelling</i></p>	
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			width. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered wall space.	<p><i>shall not require a receptacle outlet in each vehicle bay.</i></p> <p>(2) Accessory Buildings. In each accessory building with electric power.</p> <p>(3) Basements. In each separate unfinished portion of a basement.</p> <p>(H) Hallways. In dwelling units, hallways of 3.0 m (10 ft) or more in length shall have at least one receptacle outlet.</p> <p>As used in this subsection, the hallway length shall be considered the length along the centerline of the hallway without passing through a doorway.</p> <p>(I) Foyers. Foyers that are not part of a hallway in accordance with 210.52(H) and that have an area that is greater than 5.6 m² (60 ft²) shall have a receptacle(s) located in each wall space 900 mm (3 ft) or more in width. Doorways, door-side windows that extend to the floor, and similar openings shall not be considered wall space.</p>	
(N)	210.65	Meeting Rooms	<p>210.65 Meeting Rooms.</p> <p>(A) General. Each meeting room of not more than 93 m² (1000 ft²) in other than dwelling units shall have outlets for nonlocking-type, 125-volt, 15- or 20-ampere receptacles. The outlets shall be installed in accordance with 210.65(B). Where a room or space is provided with movable partition(s), each room size shall be determined with the partition in the position that results in the smallest size meeting room.</p> <p>Informational Note No. 1: For the purposes of this section, meeting rooms are typically designed or intended for the gathering of seated occupants for such purposes as conferences, deliberations, or similar purposes, where portable electronic equipment such as computers, projectors, or similar equipment is likely to be used.</p> <p>Informational Note No. 2: Examples of rooms that are not meeting rooms include auditoriums, schoolrooms, and coffee shops.</p> <p>(B) Receptacle Outlets Required. The total number of receptacle outlets, including floor outlets and receptacle outlets in fixed furniture, shall not be less than as determined in (1) and (2).</p> <p>(1) Receptacle Outlets in Fixed Walls. The required number of receptacle outlets shall be determined in accordance with 210.52(A)(1) through (A)(4). These receptacle outlets shall be permitted to be located as determined by the installer, designer, or building owner.</p> <p>(2) Floor Outlets. A meeting room with any floor dimension that is 3.7 m (12 ft) or greater in any direction and that has a floor area of at least 20 m² (215 ft²) shall have at least one floor receptacle outlet, or at least one floor outlet to serve receptacle(s), located <u>in or on the floor</u> at a distance not less than 1.8 m (6 ft) from any fixed wall for each 20 m² (215 ft²) or major portion of floor space.</p> <p>Informational Note No. 1: See 314.27(B) for floor boxes used for receptacles located in the floor.</p>	<p>210.65 Meeting Rooms.</p> <p>(A) General. Each meeting room of not more than 93 m² (1000 ft²) in other than dwelling units shall have outlets for nonlocking-type, 125-volt, 15- or 20-ampere receptacles. The outlets shall be installed in accordance with 210.65(B). Where a room or space is provided with movable partition(s), each room size shall be determined with the partition in the position that results in the smallest size meeting room.</p> <p>Informational Note No. 1: For the purposes of this section, meeting rooms are typically designed or intended for the gathering of seated occupants for such purposes as conferences, deliberations, or similar purposes, where portable electronic equipment such as computers, projectors, or similar equipment is likely to be used.</p> <p>Informational Note No. 2: Examples of rooms that are not meeting rooms include auditoriums, schoolrooms, and coffee shops.</p> <p>(B) Receptacle Outlets Required. The total number of receptacle outlets, including floor outlets and receptacle outlets in fixed furniture, shall not be less than as determined in 210.65(B)(1) and (B)(2).</p> <p>(1) Receptacle Outlets in Fixed Walls. The required number of receptacle outlets shall be determined in accordance with 210.52(A)(1) through (A)(4). These receptacle outlets shall be permitted to be located as determined by the installer, designer, or building owner.</p> <p>(2) Floor Outlets. A meeting room with any floor dimension that is 3.7 m (12 ft) or greater in any direction and that has a floor area of at least 20 m² (215 ft²) shall have at least one floor receptacle outlet, or at least one floor outlet to serve a receptacle(s), located <u>in or on the floor</u> at a distance not less than 1.8 m (6 ft) from any fixed wall for each 20 m² (215 ft²) or fraction thereof.</p>	<p>No WAC amendment</p> <p>Seattle proposes: Removal of the 2020 SEC phrase “in or on the floor” in (B)(2) floor outlets. It is unnecessary. There are requirements for outlets in fixed walls (1), and separate requirements for floor outlets (2). Isn’t it obvious floor outlets are referring to outlets in or on the floor?</p> <p>Won’t be included in 2023 Quick reference pages because are no Seattle or State of WA amendments.</p> <p>4/4/2024 Committee: Approved as shown. 4-1-2024. Does not need to be included in the 2023 Seattle electrical code draft.</p>

			Informational Note No. 2: See Article 518 for assembly occupancies designed for 100 or more persons.	Informational Note No. 1: See 314.27(B) for requirements on floor boxes used for receptacles located in the floor. Informational Note No. 2: See 518.1 for requirements on assembly occupancies designed for 100 or more persons.	
S	215.4	Feeders with Common Neutral Conductor.	<p>215.4 Feeders with Common Neutral Conductor.</p> <p>(A) Feeders with Common Neutral. Up to three sets of 3-wire feeders or two sets of 4-wire or 5-wire feeders shall be permitted to utilize a common neutral.</p> <p style="text-align: center;"><u>Informational Note: See Section 200.4 for common neutral.</u></p> <p>(B) In Metal Raceway or Enclosure. Where installed in a metal raceway or other metal enclosure, all conductors of all feeders using a common neutral conductor shall be enclosed within the same raceway or other enclosure as required in 300.20.</p>	<p>215.4 Feeders with Common Neutral Conductor.</p> <p>(A) Feeders with Common Neutral. Up to three sets of 3-wire feeders or two sets of 4-wire or 5-wire feeders shall be permitted to utilize a common neutral.</p> <p style="text-align: center;"><u>Informational Note: See Section 200.4 for common neutral.</u></p> <p>(B) In Metal Raceway or Enclosure. Where installed in a metal raceway or other metal enclosure, all conductors of all feeders using a common neutral conductor shall be enclosed within the same raceway or other enclosure as required in 300.20.</p>	<p>No WAC amendment</p> <p>Seattle Proposes: eliminating 2020 SEC informational note. Most code users know where to go in the code to find this. We go beyond the scope of maintaining the code when we start adding items geared to teach people who aren't familiar with the code how to use the code. There are other documents that do a better job at this than we can do.</p> <p>Committee: Approved as shown 4-4-2024 (strike informational note) and remove from SEC.</p>
S	215.3	Panelboards.	<p>215.13 Panelboards. Panelboards, existing or installed in an individual unit of multifamily dwellings, shall be supplied by one feeder, except by special permission from the authority having jurisdiction.</p>	<p>215.13 Multifamily Dwellings. Panelboards, existing or installed in an Individual units of multifamily dwellings, shall not be supplied by more than one feeder, except by special permission from the authority having jurisdiction.</p>	<p>No WAC amendment</p> <p>Seattle proposes: Change this so it makes more sense. The 2020 SEC language makes it sound like a panelboard can't be fed by parallel sources.</p> <p>Internal committee approved as shown 4-4-2024.</p> <p>Decided against getting rid of it entirely. Argument for eliminating it entirely: We don't need this section. It is very rare, and you only see it when they really need to do it (combining units with feeders concealed by finish usually) and I've never seen us turn it down</p>
(S)	215.14	One Dwelling Unit Not to Be Supplied Through Another.	<p>215.14 One Dwelling Unit Not to Be Supplied Through Another. Feeder conductors supplying electricity to an individual dwelling unit shall not pass through another dwelling unit.</p> <p><u>For the purpose of this section, a dwelling unit is defined as the area between the unit floor-surface and the subfloor or attic of the unit above. Walls between individual dwelling units may contain feeders supplying the contiguous dwelling units. Common area walls may be used for routing feeders.</u></p>	<p>215.14 One Dwelling Units Not to Be Supplied Through Another Other Dwelling Units. Feeder conductors supplying electricity to an individual dwelling unit shall not pass through the interior of another dwelling unit if that dwelling unit is located on a different unit lot subdivision.</p> <p><u>For the purpose of this section, a dwelling unit is defined as the area between the unit floor surface and the subfloor or attic of the unit above. Walls between individual dwelling units may contain feeders supplying the contiguous dwelling units. Common area walls may be used for routing feeders. a unit lot subdivision divides a specific</u></p>	<p>No WAC amendment.</p> <p>Seattle proposes: allowing feeders to go through other units except where the units are in unit lot subdivisions.</p> <p>Remove dwelling unit definition as it is no longer applicable. Feeders would be prohibited from going from one dwelling unit</p>

				<p>development proposal on a parent lot into separate unit lots that allow for separate ownership.</p> <p>Informational note: See SMC 23.22.062 for information on unit lot subdivisions.</p>	<p>through or into the interior of another dwelling both in a unit lot subdivision.</p> <p>Committee approved 4-4-2024—</p> <p>Check with Ardel and Micah.</p>
(N)	220.12	Lighting Load for Non-Dwelling Occupancies	<p>220.12 Lighting Load for Non-Dwelling Occupancies.</p> <p>Δ (A) General. A unit load of not less than that specified in Table 220.12 for non-dwelling occupancies and the floor area determined in 220.11 shall be used to calculate the minimum lighting load. Motors rated less than 1/8 hp and connected to a lighting circuit shall be considered general lighting load.</p> <p>Informational Note: The unit values of Table 220.12 are based on minimum load conditions and 100 percent power factor and may not provide sufficient capacity for the installation contemplated.</p> <p>N (B) Energy Code. Where the building is designed and constructed to comply with an energy code adopted by the local authority, the lighting load shall be permitted to be calculated using the unit values specified in the energy code where the following conditions are met:</p> <p>((1) A power monitoring system is installed that will provide continuous information regarding the total general lighting load of the building.</p> <p>((2) The power monitoring system will be set with alarm values to alert the building owner or manager if the lighting load exceeds the values set by the energy code. Automatic means to take action to reduce the connected load shall be permitted.)</p> <p>((3)) 1) The demand factors specified in 220.42 are not applied to the general lighting load.</p> <p>((4)) 2) The continuous load multiplier of 125 percent shall be applied.</p> <p>Informational Note: See Section 403 of the 2018 Seattle Energy Code for the unit values.</p>	<p>220.42 Lighting Load for Non-Dwelling Occupancies.</p> <p>(A) General. A unit load of not less than that specified in Table 220.42(A) for non-dwelling occupancies and the floor area determined in 220.5(C) shall be used to calculate the minimum lighting load. Motors rated less than 1/8 HP and connected to a lighting circuit shall be considered general lighting load.</p> <p>Informational Note: The unit values of Table 220.42(A) are based on minimum load conditions and 80 percent power factor and might not provide sufficient capacity for the installation contemplated.</p> <p>(B) Energy Code. Where the building is designed and constructed to comply with an energy code adopted by the local authority, the lighting load shall be permitted to be calculated using the unit values specified in the energy code where the following conditions are met:</p> <p>(1) A power monitoring system is installed that will provide continuous information regarding the total general lighting load of the building.</p> <p>(2) The power monitoring system will be set with alarm values to alert the building owner or manager if the lighting load exceeds the values set by the energy code. Automatic means to take action to reduce the connected load shall be permitted.</p> <p>(3) The demand factors specified in 220.45 are not applied to the general lighting load.</p> <p>(4) The continuous load multiplier of 125 percent shall be applied.</p> <p>Informational Note: See Section 403 of the 2018 Seattle Energy Code for the unit values.</p>	<p>No WAC amendment</p> <p>Seattle proposes: Article moved to 220.42 by NEC. Slight edits to numbering under (B) and NEC edits.</p> <p>Carry forward strikethrough of (1) and (2) from 2020 SEC and Informational note and overlay onto 2023 NEC language..</p> <p>Committee approved—4-4-2024.</p>
S	220.51	Fixed Electric Space Heating.	<p>220.51 Fixed Electric Space Heating. Fixed electric space-heating loads shall be calculated at 100 percent of the total connected load. However, in no case shall a feeder or service load current rating be less than the rating of the largest branch circuit supplied.</p> <p><i>Exception: ((Where reduced loading of the conductors results from units operating on duty cycle, intermittently, or from all units not operating at the same time, the authority having jurisdiction may grant permission for feeder and service conductors to have an ampacity less than 100 percent, provided the conductors have an ampacity for the load so determined.)) A demand factor of 75 percent of the installed heating capacity may be used in sizing service entrance and feeder equipment for dwelling, commercial, and industrial occupancies when electric service is provided to four or more fixed space heaters, or electric furnaces individually controlled.</i></p>	<p>220.51 Fixed Electric Space Heating. Fixed electric space-heating loads shall be calculated at 100 percent of the total connected load. However, in no case shall a feeder or service load current rating be less than the rating of the largest branch circuit supplied.</p> <p><i>Exception: ((If reduced loading of the conductors results from units operating on duty cycle or intermittently, or from all units not operating at the same time, the authority having jurisdiction shall be permitted to grant permission for feeder and service conductors to have an ampacity less than 100 percent if the conductors have an ampacity for the load so determined.)) A demand factor of 75 percent of the installed heating capacity may be used in sizing service entrance and feeder equipment for dwelling, commercial, and industrial occupancies when electric service is provided to four or more fixed space heaters, or electric furnaces individually</i></p>	<p>No WAC amendment</p> <p>Seattle proposes: Eliminating the NEC exception and 2020 SEC amendment in exception. There is a conflict with 220.53.</p> <p>4/17/2024 Committee: Remove SEC language and remove from SEC entirely. Conflict with 220.53</p>

			<i>These exceptions shall not apply when optional calculations allowed by Section 220.84 are used.</i>	<i>controlled. These exceptions shall not apply when optional calculations allowed by Section 220.84 are used.</i>	
(S)	220.53	Appliance Load — Dwelling Unit(s).	<p>220.53 Appliance Load—Dwelling Unit(s). It shall be permissible to apply a demand factor of 75 percent to the nameplate rating load of four or more appliances fastened in place, other than electric ranges, clothes dryers, space-heating equipment, or air-conditioning equipment, that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling. <u>For space heating equipment, see Section 220.51.</u></p> <p>220.53 Appliance Load — Dwelling Unit(s). It shall be permissible to apply a demand factor of 75 percent to the nameplate rating load of four or more appliances rated 1/4 hp or greater, or 500 watts or greater, that are fastened in place, and that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling. This demand factor shall not apply to:</p> <ol style="list-style-type: none"> (1) Household electric cooking equipment that is fastened in place (2) Clothes dryers (3) Space heating equipment (4) Air-conditioning equipment <p>To determine the loading of space heating equipment, see Section 220.51</p>	<p>220.53 Appliance Load — Dwelling Unit(s). Applying a demand factor of 75 percent to the nameplate rating load of four or more appliances rated 1/4 hp or greater, or 500 watts or greater, that are fastened in place, and that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling shall be permitted. This demand factor shall not apply to the following:</p> <ol style="list-style-type: none"> (1) Household electric cooking equipment that is fastened in place (2) Clothes dryers (3) Space heating equipment (4) Air-conditioning equipment (5) Electric vehicle supply equipment (EVSE) <p>To determine the loading of space heating equipment, see Section 220.51</p>	<p>No WAC amendment.</p> <p>Seattle proposes: 2020 SEC had 220.53 in twice, with different language. The 2020 SEC amendment is not necessary. This should be removed from the 2023 SEC and only the 2023 NEC language should be shown. NEC.</p> <p>4/17/2024 Committee: Remove SEC language and remove from SEC entirely</p>
S	220.57	Electric Vehicle Demand Load.	<p>220.57 Electric Vehicle Demand Load. Electric vehicle-ready demand load shall be calculated based on the load needed for the number of electric vehicle-ready parking spaces required by 625.27 (A) or (B).</p>	<p>220.57 Electric Vehicle Demand Load. Electric vehicle ready demand load shall be calculated based on the load needed for the number of electric vehicle ready parking spaces required by 625.27 (A) or (B).</p> <p>220.57 Electric Vehicle Supply Equipment (EVSE) Load. The EVSE load shall be calculated <u>per the requirements of Seattle Electrical Code section 625.27 ((at either 7200-watts (volt-amperes) or the nameplate rating of the equipment, whichever is larger.))</u></p>	<p>No WAC amendment. 2023 NEC adds a new section for EV demand load, section 220.57.</p> <p>Seattle proposes: removing 2020 SEC amendment and replacing it with a pointer to 625.27. EV demand load should be based on # of EV chargers to be installed, which will be based on state and local ordinance requirements. Our current language allows only for the calculation of the minimum required spaces, even if they are installing more. Seems unnecessary.</p> <p>4/17/2024: Committee agrees with language as written with vetting by Ardel and Micah</p>

S	220.70			<p>220.70 Energy Management Systems (EMSs). If an energy management system (EMS) is used to limit the current to a feeder or service in accordance with 750.30, a single value equal to the maximum ampere setpoint of the EMS shall be permitted to be used in load calculations for the feeder or service.</p> <p>The setpoint value of the EMS shall be considered a continuous load for the purposes of load calculations.</p> <p><u>For new service installations, no branch-circuit, feeder or service load calculations required under Article 220 may be reduced by EMS.</u></p>	<p>No WAC amendment</p> <p>Seattle recommends: adding this language which blocks the required loads being reduced by EMS.</p> <p>5/9/2024 Committee, w/ Jenifer, approved as written.</p> <p>Not doing: 4/17/2024: Committee: Add exception for EV requirements of ordinance with special permission. Also, to allow for adding to existing services/loads.</p>
S	220.84	Multifamily Dwelling.	<p>220.84 Multifamily Dwelling.</p> <p>(A) Feeder or Service Load. It shall be permissible to calculate the load of a feeder or service that supplies three or more dwelling units of a multifamily dwelling in accordance with Table 220.84 instead of Part III of this article if all the following conditions are met:</p> <p>(1) No dwelling unit is supplied by more than one feeder.</p> <p>(2) Each dwelling unit is equipped with electric cooking equipment.</p> <p><i>Exception: When the calculated load for multifamily dwellings without electric cooking in Part III of this article exceeds that calculated under Part IV for the identical load plus electric cooking (based on 8 kW per unit), the lesser of the two loads shall be permitted to be used.</i></p> <p>(3) Each dwelling unit is equipped with either electric space heating or air conditioning, or both. Feeders and service conductors whose calculated load is determined by this optional calculation shall be permitted to have the neutral load determined by 220.61.</p> <p><i>Exception: When the calculated load for multifamily dwellings without electric heating or air conditioning, or both in Part III of this article exceeds that calculated under Part IV for the identical load plus electric heating (based on 5 W per square foot or the actual heat loss calculations based on the energy code at 140% as approved by the mechanical review in BTU), the lesser of the two loads shall be permitted to be used.</i></p> <p>(B) House Loads. House loads shall be calculated in accordance with Part III of this article and shall be in addition to the dwelling unit loads calculated in accordance with Table 220.84.</p> <p>(C) Calculated Loads. The calculated load to which the demand factors of Table 220.84 apply shall include the following:</p> <p>(1) 33 volt-amperes/m2 or 3 volt-amperes/ft2 for general lighting and general-use receptacles</p>	<p>220.84 Multifamily Dwelling.</p> <p>(A) Feeder or Service Load. It shall be permissible to calculate the load of a feeder or service that supplies three or more dwelling units of a multifamily dwelling in accordance with Table 220.84(B) instead of Part III of this article if all the following conditions are met:</p> <p>(1) No dwelling unit is supplied by more than one feeder.</p> <p>(2) Each dwelling unit is equipped with electric cooking equipment.</p> <p><i>Exception: When the calculated load for multifamily dwellings without electric cooking in Part III of this article exceeds that calculated under Part IV for the identical load plus electric cooking (based on 8 kW per unit), the lesser of the two loads shall be permitted to be used.</i></p> <p>(3) Each dwelling unit is equipped with either electric space heating or air conditioning, or both. Feeders and service conductors whose calculated load is determined by this optional calculation shall be permitted to have the neutral load determined by 220.61.</p> <p><i>Exception: When the calculated load for multifamily dwellings without electric heating or air conditioning, or both in Part III of this article exceeds that calculated under Part IV for the identical load plus electric heating (based on 5 W per square foot or the actual heat loss calculations based on the energy code at 140% 150% as approved by the mechanical review in BTU), the lesser of the two loads shall be permitted to be used.</i></p> <p>(B) House Loads. House loads shall be calculated in accordance with Part III of this article and shall be in addition to the dwelling unit loads calculated in accordance with Table 220.84(B).</p> <p>(C) Calculated Loads. The calculated load to which the demand factors of Table 220.84(B) apply shall include the following:</p>	<p>No WAC amendment</p> <p>Seattle proposes: editing (C)(3)(a) to make it cleaner and remove the requirement that it be powered from the unit panel. Also edit “EV charger” to “EV supply equipment” to be consistent with NEC terminology</p> <p>Changed percentage from 140% to 150% to align with mechanical review, in 220.84 (A)(3), exception. It allows the plug number for heat.</p> <p>4/17/2024 Committee: Language in (C)(3)(a) is necessary but edited. Approve as written</p>

			<p>(2) 1500 volt-amperes for each 2-wire, 20-ampere small-appliance branch circuit and each laundry branch circuit covered in 210.11(C)(1) and (C)(2)</p> <p>(3) The nameplate rating of the following:</p> <ul style="list-style-type: none"> a. All appliances that are fastened in place, permanently connected, or located to be on a specific circuit <u>(including EV charger when powered from the unit panel)</u> b. Ranges, wall-mounted ovens, counter-mounted cooking units c. Clothes dryers that are not connected to the laundry branch circuit specified in item (2) d. Water heaters <p>(4) The nameplate ampere or kVA rating of all permanently connected motors not included in item (3)</p> <p>(5) The larger of the air-conditioning load or the fixed electric space-heating load.</p>	<p>(1) 33 volt-amperes/m2 or 3 volt-amperes/ft2 for general lighting and general-use receptacles</p> <p>(2) 1500 volt-amperes for each 2-wire, 20-ampere small-appliance branch circuit and each laundry branch circuit covered in 210.11(C)(1) and (C)(2)</p> <p>(3) The nameplate rating of the following:</p> <ul style="list-style-type: none"> a. All appliances, <u>including EV supply equipment supplied from a unit</u>, that are fastened in place, permanently connected, or located to be on a specific circuit b. Ranges, wall-mounted ovens, counter-mounted cooking units c. Clothes dryers that are not connected to the laundry branch circuit specified in item (2) d. Water heaters <p>(4) The nameplate ampere or kVA rating of all permanently connected motors not included in item (3)</p> <p>(5) The larger of the air-conditioning load or the fixed electric space-heating load</p>	
	225.17	Masts as Supports.	<p>225.17 Masts as Supports. Only feeder or branch-circuit conductors specified within this section shall be permitted to be attached to the feeder and/or branch-circuit mast. Masts used for the support of final spans of feeders or branch circuits shall be installed in accordance with ((225.17(A) and (B))) <u>230.28</u>.</p> <p>((A) Strength. The mast shall have adequate strength or be supported by braces or guy wires to safely withstand the strain imposed by the overhead feeder or branch circuit conductors. Hubs intended for use with a conduit serving as a mast for support of feeder or branch circuit conductors shall be identified for use with a mast.</p> <p>(B) Attachment. Feeder and/or branch circuit conductors shall not be attached to a mast where the connection is between a weatherhead or the end of the conduit and a coupling where the coupling is located above the last point of securement to the building or other structure, or where the coupling is located above the building or other structure.)</p>	<p>225.17 Masts as Supports. Only feeder or branch-circuit conductors specified within this section shall be permitted to be attached to the feeder and/or branch-circuit mast. Masts used for the support of final spans of feeders or branch circuits shall be installed in accordance with ((225.17(A) and (B))) <u>230.28</u>.</p> <p>((A) Strength. The mast shall have adequate strength or be supported by braces or guy wires to safely withstand the strain imposed by the overhead feeder or branch circuit conductors. Hubs intended for use with a conduit serving as a mast for support of feeder or branch circuit conductors shall be identified for use with a mast.</p> <p>(B) Attachment. Feeder and/or branch circuit conductors shall not be attached to a mast where the connection is between a weatherhead or the end of the conduit and a coupling where the coupling is located above the last point of securement to the building or other structure, or where the coupling is located above the building or other structure.)</p>	<p>No WAC amendments.</p> <p>Seattle proposes: No changes to [S] amendments. Carry over 2020 SEC amendments and overlay onto 2023 NEC.</p> <p>5/9/2024 committee: No changes, carry forward.</p>
S	225.32 225.31	Location	<p>Δ 225.32 Location.</p> <p>(A) Location-General. The disconnecting means shall be installed either inside or outside of the building or structure served or where the conductors pass through the building or structure. The disconnecting means shall be at a readily accessible location nearest the point of entrance of the conductors. For the purposes of this section, the requirements in 230.6 shall be utilized.</p>	<p>Δ 225.31 Disconnecting Means.</p> <p>N(A) Location-General. Means shall be provided for disconnecting all ungrounded conductors that supply or pass through the building or structure.</p> <p>Δ(B) Location of outside feeder disconnecting means. The disconnecting means shall be installed either inside or outside of the building or structure served or where the conductors pass through the</p>	<p>WAC amendment, NEC moved this to 225.31. WAC eliminated (B) exception #2.</p> <p>Seattle proposes: reorganize with edits</p> <p>I'm not sure what (C) is trying to say, would it be better to say if</p>

		<p><i>Exception No. 1: For installations under single management, where documented safe switching procedures are established and maintained for disconnection, and where the installation is monitored by qualified individuals, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 2: For buildings or other structures qualifying under Article 685, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 3: For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 4: For poles or similar structures used only for support of signs installed in accordance with Article 600, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><u>(B) Location of outside feeder disconnecting means.</u> A disconnecting means must be provided to disconnect all ungrounded conductors that supply or pass through a building or structure with the following exceptions.</p> <p><i><u>Exception No. 1: A feeder disconnecting means, including that required by Articles 700, 701, or 702 of this Code for a generator, is considered to be in the building if installed on the outside of the building or structure or within sight and within 15 feet of the building or structure. The building disconnecting means may supply only one building or structure unless the secondary building(s) or structure(s) has a separate building disconnecting means meeting the requirements of this Code and this subsection. The disconnecting means must have an identification plate with at least one-half-inch high letters which identify:</u></i></p> <p><i><u>(a) the building or structure served; and</u></i> <i><u>(b) the disconnecting means function as the building or structure main disconnect(s).</u></i></p> <p><i><u>Exception No. 2: The feeder disconnecting means may be installed anywhere inside a building or structure when there is a feeder disconnecting means, located elsewhere on the premises, with overcurrent protection sized for the feeder conductors.</u></i></p> <p><u>(C) A generator disconnecting means.</u> Generator disconnecting means installed per subsection (1)(a) or (b), is not required to be suitable for use as service equipment.</p> <p><small>Informational Note: WAC 296-46B-225.032 requirements for the location of outside feeder disconnecting means is incorporated herein.</small></p>	<p>building or structure. The disconnecting means shall be at a readily accessible location nearest the point of entrance of the conductors. For the purposes of this section, the requirements in 230.6 shall apply.</p> <p><i>Exception No. 1: For installations under single management, where documented safe switching procedures are established and maintained, and where the installation is monitored by qualified individuals, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 2: For buildings or other structures qualifying under 685.1, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 3: For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i>Exception No. 4: For poles or similar structures used only for support of signs installed in accordance with 600.1, the disconnecting means shall be permitted to be located elsewhere on the premises.</i></p> <p><i><u>Exception No. 5: If the secondary building(s) or structure(s) has a separate building disconnecting means meeting the requirements of this Code and this subsection. The disconnecting means must have an identification plate with at least one-half-inch high letters which identify:</u></i></p> <p><i><u>(a) the building or structure served; and</u></i> <i><u>(b) the disconnecting feeder disconnecting means, including that required by Articles 700, 701, or 702 of this Code for a generator, is considered to be in the building if installed on the outside of the building or structure or within sight of and within 15 feet of the building or structure. The building disconnecting means may supply only one building or structure unless means function as the building or structure main disconnect(s).</u></i></p> <p><i>Exception No. 6 (Previously known as exception #2): The feeder disconnecting means may be installed anywhere inside a building or structure when there is a feeder disconnecting means, located elsewhere on the premises, with overcurrent protection sized for the feeder conductors.</i></p> <p><u>(C) A generator disconnecting means.</u> A generator disconnecting means installed per subsection (1)(a) or (b), is not required to be suitable for use as service equipment when there is a feeder disconnecting means, located elsewhere on the premises, with overcurrent protection sized for the feeder conductors.</p> <p><small>Informational Note: WAC 296-46B-225.031 requirements for the location of outside feeder disconnecting means is incorporated herein.</small></p>	<p>there isn't overcurrent protection elsewhere on the premises, then it NEEDS to be service rated?</p> <p>4/17/2024 Committee: Approve as edited</p>
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S	230.1	((Scope)) General	<p>230.1 ((Scope)) General.</p> <p>(A) Scope. This article covers service conductors and equipment for control and protection of services and their installation requirements.</p> <p>Informational Note: See Figure 230.1, <u>Services</u>.</p> <p>(B) Service Requirements. <u>The serving utility shall be consulted by the owner, the owner's agent, or the contractor making the installation regarding service entrance location before installing equipment. Provisions for metering equipment, attachment of service-drop, or an underground service lateral shall be made at a location acceptable to the serving utility.</u></p>	<p>Δ230.1 ((Scope)) General.</p> <p>(A) Scope. This article covers service conductors and equipment for control and protection of services <u>not over 1000 volts ac or 1500 volts dc, nominal</u> and their installation requirements.</p> <p>Informational Note No. 1: See <u>Informational Note Figure 230.1</u>.</p> <p>Informational Note No. 2: See Part V of Article 235 for services over 1000 volts ac or 1500 volts dc, nominal.</p> <p>(C) Service Requirements. <u>The serving utility shall be consulted by the owner, the owner's agent, or the contractor making the installation to ensure compliance with the utility's requirements for electrical service connection. This includes, but is not limited to, requirements for location, clearances, and equipment, regarding service entrance location before installing equipment. Provisions for metering equipment, attachment of service drop, or an underground service lateral shall be made at a location acceptable to the serving utility.</u></p> <p><u>Informational Note: See Seattle City Light's Requirements for Electrical Service Connection for information on specific utility requirements for service connection.</u></p>	<p>WAC amendment</p> <p>Seattle proposes:</p> <p>Carry over 2020 SEC amendments with edits to make clear that it is for more than strike and meter location.</p>
S	230.2	Number of Services	<p>230.2 Number of Services. A building or other structure served shall be supplied by only one service unless permitted in 230.2(A) through (D). For the purpose of 230.40, Exception No. 2 only, underground sets of conductors, 1/0 AWG and larger, running to the same location and connected together at their supply end but not connected together at their load end shall be considered to be supplying one service.</p> <p>(A) Special Conditions. Additional services shall be permitted to supply the following:</p> <ol style="list-style-type: none"> (1) Fire pumps (2) Emergency systems (3) Legally required standby systems (4) Optional standby systems (5) Parallel power production systems (6) Systems designed for connection to multiple sources of supply for the purpose of enhanced reliability <p>(B) Special Occupancies. By special permission, additional services shall be permitted for either of the following:</p> <ol style="list-style-type: none"> (1) Multiple-occupancy buildings where there is no available space for service equipment accessible to all occupants (2) A single building or other structure sufficiently large to make two or more services necessary <p>(C) Capacity Requirements. Additional services shall be permitted under any of the following:</p>	<p>230.2 Number of Services. A building or other structure served shall be supplied by only one service unless permitted in 230.2(A) through (D). For the purpose of 230.40, Exception No. 2 only, underground sets of conductors, 1/0 AWG and larger, running to the same location and connected together at their supply end but not connected together at their load end shall be considered to be supplying one service.</p> <p>(A) Special Conditions. Additional services shall be permitted to supply the following:</p> <ol style="list-style-type: none"> (1) Fire pumps (2) Emergency systems (3) Legally required standby systems (4) Optional standby systems (5) <u>Interconnected electric power production sources</u> (6) Systems designed for connection to multiple sources of supply for the purpose of enhanced reliability <p>(B) Special Occupancies. By special permission, additional services shall be permitted for either of the following:</p> <ol style="list-style-type: none"> (1) Multiple-occupancy buildings where there is no available space for service equipment accessible to all occupants (2) A single building or other structure sufficiently large to make two or more services necessary <p>(C) Capacity Requirements. Additional services shall be permitted under any of the following:</p>	<p>No WAC amendment. Slight NEC change.</p> <p>Seattle proposes:</p> <p>Carry 2020 SEC language forward and overlay on 2023 NEC.</p> <p>Change "EV charging to EVSE"</p> <p>4/17/2024: Committee: Approve</p>

			<p>(1) Where the capacity requirements are in excess of 2,000 amperes at a supply voltage of 1,000 volts or less</p> <p>(2) Where the load requirements of a single-phase installation are greater than the serving agency normally supplies through one service</p> <p>(3) By special permission</p> <p>(4) <u>Electrical vehicle charging</u></p> <p>(D) Different Characteristics. Additional services shall be permitted for different voltages, frequencies, or phases, or for different uses, such as for different rate schedules.</p> <p>(E) Identification. Where a building or structure is supplied by more than one service, or any combination of branch circuits, feeders, and services, a permanent plaque or directory shall be installed at each service disconnect location denoting all other services, feeders, and branch circuits supplying that building or structure and the area served by each. See 225.37.</p>	<p>(1) Where the capacity requirements are in excess of 2000 amperes at a supply voltage of 1000 volts or less</p> <p>(2) Where the load requirements of a single-phase installation are greater than the serving agency normally supplies through one service</p> <p>(3) By special permission</p> <p>(4) <u>Electrical vehicle charging supply equipment</u></p> <p>(D) Different Characteristics. Additional services shall be permitted for different voltages, frequencies, or phases, or for different uses, such as for different rate schedules.</p> <p>(E) Identification. Where a building or structure is supplied by more than one service, or any combination of branch circuits, feeders, and services, a permanent plaque or directory shall be installed at each service disconnect location denoting all other services, feeders, and branch circuits supplying that building or structure and the area served by each. See 225.37.</p>	
S	230.3	One Building or Other Structure Not to Be Supplied Through Another.	230.3 One Building or Other Structure Not to Be Supplied Through Another. Service conductors supplying a building or other structure shall not pass through the interior of another building or other structure.	<i>No SEC amendments. Don't include in Quick Reference document.</i>	<p>No WAC amendment</p> <p>Seattle proposes: eliminating this section from being printed in the Quick Reference document. There are no Seattle amendments in this section.</p> <p>4/18/2024 Committee: Remove section from SEC</p>
S	230.4	Service Entrance Conductors Serving Development Sites.	230.4 Service Entrance Conductors Serving Development Sites. <u>Service entrance conductors from one development site shall not serve another development site or premises.</u>	230.4 Service Entrance Conductors Serving Development Sites. <u>Service entrance conductors from one development site shall not serve another development site or premises.</u>	<p>No WAC amendment</p> <p>Seattle proposes: Carry over 2020 SEC amendment and overlay on 2023 NEC language.</p> <p>4/18/2024: Committee does not like adding “development site parcel” language. Carry forward 2020 language. Approved as written.</p> <p>Not Doing: PGF: I propose moving this to 110 because it applies to all wiring: services, feeders, and branch circuits.</p> <p>Updating terminology to development site parcels to match Land Use.</p>

S	230.5	Types of Services.	<p>230.5 Types of Services. All services shall be grounded single-phase or grounded three-phase 4-wire systems. Three-phase 3-wire services shall not be installed unless prior approval is granted by the utility and the authority having jurisdiction.</p>	<p>230.5 Types of Services. All services shall be grounded single-phase or grounded three-phase 4-wire systems. Three-phase 3-wire services shall not be installed unless prior approval is granted by the utility and the authority having jurisdiction.</p>	<p>No WAC amendment, Slight NEC change.</p> <p>Seattle proposes: Carry 2020 SEC language forward and overlay on 2023 NEC.</p> <p>4/18/2024 Committee: Approve as written.</p>
S	230.12	Service Point Connection	<p>230.12 Service Point Connection. Service point connections shall comply with paragraphs (A), (B) or (C) below.</p> <p>(A) Overhead service-drop. For overhead service-drop conductors from the utility pole to the point of attachment to the building, connections of the service entrance conductors shall be at a weatherhead outside the building.</p> <p>(B) Underground Service Connections Outside of Buildings. For underground service connections outside of buildings, connection shall be made in one of the following:</p> <ul style="list-style-type: none"> (1) a service terminal box or current transformer cabinet; (2) a handhole or power transformer installed outdoors in accordance with requirements of the utility, the Seattle Building Code, or any other applicable ordinance; (3) A meter socket(s) of 200 amperes minimum size, direct-metered; (4) A termination compartment of service equipment that is used exclusively for the connection of the utility distribution system. <p>(C) Underground Service Connections Inside of Buildings. For underground service connections inside of buildings, connection shall be made at one of the following:</p> <ul style="list-style-type: none"> (1) Where utility-supplied conductors are used: <ul style="list-style-type: none"> (a) service terminal box or current transformer cabinet connected by no more than 457 mm (18 in.) of rigid steel or rigid nonmetallic conduit inside the building; (b) a direct metered, flush mounted meter socket of 200 amperes minimum size mounted in a perimeter wall of a single-family dwelling connected by no more than 2.4 m (8 ft) of rigid steel or rigid nonmetallic conduit inside the building; (c) a termination or current transformer section of built, sectionalized service equipment that is used exclusively for the connection of the utility distribution system. This section must be fed from underground or concrete encased conduit and the service equipment must be set directly on the floor or a concrete house (2) a transformer vault within the building 	<p>230.12 Service Point Connection. Service point connections shall comply with paragraphs (A), (B) or (C) below.</p> <p>(A) Overhead service-drop. For overhead service-drop conductors from the utility pole to the point of attachment to the building, connections of the service entrance conductors shall be at a weatherhead outside the building.</p> <p>(B) Underground Service Connections Outside of Buildings. For underground service connections outside of buildings, connection shall be made in one of the following:</p> <ul style="list-style-type: none"> (1) a service terminal box or current transformer cabinet; (2) a handhole or power transformer installed outdoors in accordance with requirements of the utility, the Seattle Building Code, or any other applicable ordinance; (3) A meter socket(s) of 200 amperes minimum size, direct-metered; (4) A termination compartment of service equipment that is used exclusively for the connection of the utility distribution system. <p>(C) Underground Service Connections Inside of Buildings. For underground service connections inside of buildings, connection shall be made at one of the following:</p> <ul style="list-style-type: none"> (1) Where utility-supplied conductors are used: <ul style="list-style-type: none"> (a) service terminal box or current transformer cabinet connected by no more than 457 mm (18 in.) of rigid steel or rigid nonmetallic conduit inside the building; (b) a direct metered, flush mounted meter socket of 200 amperes minimum size mounted in a perimeter wall of a single-family dwelling connected by no more than 2.4 m (8 ft) of rigid steel or rigid nonmetallic conduit inside the building; (c) a termination or current transformer section of built, sectionalized service equipment that is used exclusively for the connection of the utility distribution system. This section must be fed from underground or concrete encased conduit and the service equipment must be set directly on the floor or a concrete house 	<p>No WAC amendment</p> <p>Seattle proposes: Carrying 2020 SEC language forward and overlaying on 2023 NEC language.</p> <p>Removing flush mount language from (C)(1)(b) as flush mount is not permitted by SCL.</p> <p>4/18/2024: Committee: Approve as written</p>

				(2) a transformer vault within the building	
S	230.20	Overhead Service Conductors.	230.20 Overhead Service Conductors. Overhead service conductors between a service point and connections to service entrance conductors that are 1,000 volts or less are not permitted.	230.20 Overhead Service Conductors. <u>For systems rated 1000 volts or less, service entrance conductors beyond the service point shall not be installed as overhead conductors.</u>	No WAC amendment. Seattle proposes: rewriting this section for clarity. 4/18/2024 Committee: Approve edits as written.
S	230.22	Insulation or Covering	230.22 ((Insulation or Covering. Individual conductors shall be insulated or covered.)) Reserved. <i>((Exception: The grounded conductor of a multiconductor cable shall be permitted to be bare.))</i>	230.22 ((Insulation or Covering. Individual conductors shall be insulated or covered.)) Reserved. <i>((Exception: The grounded conductor of a multiconductor cable shall be permitted to be bare.))</i>	No WAC amendment. No 2023 SEC changes. Seattle proposes: Maintaining strikethrough of this section. Carry forward the 2020 SEC strike through and overlay on 2023 NEC language. 4/18/2024: Strikethrough is necessary because we don't allow overhead service conductors.
S	230.23	Size and Ampacity	230.23 ((Size and Ampacity)) Reserved. ((A) General. Conductors shall have sufficient ampacity to carry the current for the load as calculated in accordance with Article 220 and shall have adequate mechanical strength. (B) Minimum Size. The conductors shall not be smaller than 8 AWG copper or 6 AWG aluminum or copper-clad aluminum. <i>Exception: Conductors supplying only limited loads of a single branch circuit—such as small polyphase power, controlled water heaters, and similar loads—shall not be smaller than 12 AWG hard drawn copper or equivalent.</i> (C) Grounded Conductors. The grounded conductor shall not be less than the minimum size as required by 250.24(C).))	230.23 ((Size and Ampacity)) Reserved. ((A) General. Conductors shall have sufficient ampacity to carry the current for the load as calculated in accordance with <u>Parts II through V</u> of Article 220 and shall have adequate mechanical strength. (B) Minimum Size. The conductors shall not be smaller than 8 AWG copper or 6 AWG aluminum or copper-clad aluminum. <i>Exception: Conductors supplying only limited loads of a single branch circuit—such as small polyphase power, controlled water heaters, and similar loads—shall not be smaller than 12 AWG hard drawn copper or equivalent.</i> (C) Grounded Conductors. The grounded conductor shall not be less than the minimum size as required by 250.24(C).))	No WAC amendment Seattle proposes: See notes on 230.22.
	230.24	Clearances	230.24 ((Clearances. Overhead service conductors shall not be readily accessible and shall comply with 230.24(A) through (E) for services not over 1000 volts, nominal.)) Reserved. ((A) Above Roofs. Conductors shall have a vertical clearance of not less than 2.5 m (8 ft) above the roof surface. The vertical clearance above the roof level shall be maintained for a distance of not less than 900 mm (3 ft) in all directions from the edge of the roof. <i>Exception No. 1: The area above a roof surface subject to pedestrian or vehicular traffic shall have a vertical clearance from the roof surface in accordance with the clearance requirements of 230.24(B).</i> <i>Exception No. 2: Where the voltage between conductors does not exceed 300 and the roof has a slope of 100 mm in 300 mm (4 in. in 12 in.) or greater, a reduction in clearance to 900 mm (3 ft) shall be permitted.</i>	230.24 Clearances. Overhead service conductors shall not be readily accessible and shall comply with 230.24(A) through (E) for services not over 1000 volts, nominal. (A) Above Roofs. Conductors shall have a vertical clearance of not less than 2.6 m (8 ft 6 in.) above the roof surface. The vertical clearance above the roof level shall be maintained for a distance of not less than 900 mm (3 ft) in all directions from the edge of the roof. <i>Exception No. 1: The area above a roof surface subject to pedestrian or vehicular traffic shall have a vertical clearance from the roof surface in accordance with the clearance requirements of 230.24(B).</i> <i>Exception No. 2: Where the voltage between conductors does not exceed 300 and the roof has a slope of 100 mm in 300 mm (4 in. in 12 in.) or greater, a reduction in clearance to 900 mm (3 ft) shall be permitted.</i>	No WAC amendment. Seattle proposes: un-striking this section. Although utility service entrance conductors are not our responsibility, allowing this to stand as written in the NEC gives us the authority to enforce service installations where meeting the clearance requirements in the NEC is impossible. It also allows us to enforce requirements where construction is occurring around existing service entrance utility conductors.

		<p><i>Exception No. 3: Where the voltage between conductors does not exceed 300, a reduction in clearance above only the overhanging portion of the roof to not less than 450 mm (18 in.) shall be permitted if (1) no more than 1.8 m (6 ft) of overhead service conductors, 1.2 m (4 ft) horizontally, pass above the roof overhang, and (2) they are terminated at a through-the-roof raceway or approved support. Informational Note: See 230.28 for mast supports.</i></p> <p><i>Exception No. 4: The requirement for maintaining the vertical clearance 900 mm (3 ft) from the edge of the roof shall not apply to the final conductor span where the service drop or overhead service conductors are attached to the side of a building.</i></p> <p><i>Exception No. 5: Where the voltage between conductors does not exceed 300 and the roof area is guarded or isolated, a reduction in clearance to 900 mm (3 ft) shall be permitted.</i></p> <p>(B) Vertical Clearance for Overhead Service Conductors. Overhead service conductors, where not in excess of 600 volts, minimal, shall have the following minimum clearance from final grade:</p> <ul style="list-style-type: none"> (1) 3.0 m (10 ft) — at the electrical service entrance to buildings, also at the lowest point of the drip loop of the building electrical entrance, and above areas or sidewalks accessible only to pedestrians, measured from final grade or other accessible surface only for overhead service conductors supported on and cabled together with a grounded bare messenger where the voltage does not exceed 150 volts to ground (2) 3.7 m (12 ft) — over residential property and driveways, and those commercial areas not subject to truck traffic where the voltage does not exceed 300 volts to ground (3) 4.5 m (15 ft) — for those areas listed in the 3.7 m (12 ft) classification where the voltage exceeds 300 volts to ground (4) 5.5 m (18 ft) — over public streets, alleys, roads, parking areas subject to truck traffic, driveways on other than residential property, and other land such as cultivated, grazing, forest, and orchard. (5) 7.5 m (24 1/2 ft) over tracks of railroads <p>(C) Clearance from Building Openings. See 230.9.</p> <p>(D) Clearance from Swimming Pools. See 680.9.</p> <p>(E) Clearance from Communication Wires and Cables. Clearance from communication wires and cables shall be in accordance with 800.44(A)(4).)</p>	<p><i>Exception No. 3: Where the voltage between conductors does not exceed 300, a reduction in clearance above only the overhanging portion of the roof to not less than 450 mm (18 in.) shall be permitted if (1) no more than 1.8 m (6 ft) of overhead service conductors, 1.2 m (4 ft) horizontally, pass above the roof overhang, and (2) they are terminated at a through-the-roof raceway or approved support. Informational Note: See 230.28 for mast supports.</i></p> <p><i>Exception No. 4: The requirement for maintaining the vertical clearance 900 mm (3 ft) from the edge of the roof shall not apply to the final conductor span where the service drop or overhead service conductors are attached to the side of a building.</i></p> <p><i>Exception No. 5: Where the voltage between conductors does not exceed 300 and the roof area is guarded or isolated, a reduction in clearance to 900 mm (3 ft) shall be permitted.</i></p> <p>(B) Vertical Clearance for Overhead Service Conductors. Overhead service conductors, where not in excess of 600 volts, minimal, shall have the following minimum clearance from final grade:</p> <ul style="list-style-type: none"> (1) 3.0 m (10 ft)—at the electrical service entrance to buildings, also at the lowest point of the drip loop of the building electrical entrance, and above areas or sidewalks accessible only to pedestrians, measured from final grade or other accessible surface only for overhead service conductors supported on and cabled together with a grounded bare messenger where the voltage does not exceed 150 volts to ground (2) 3.7 m (12 ft)—over residential property and driveways, and those commercial areas not subject to truck traffic where the voltage does not exceed 300 volts to ground (3) 4.5 m (15 ft)—for those areas listed in the 3.7-m (12 ft) classification where the voltage exceeds 300 volts to ground (4) 5.5 m (18 ft)—over public streets, alleys, roads, parking areas subject to truck traffic, driveways on other than residential property, and other land such as cultivated, grazing, forest, and orchard. (5) 7.5 m (24 1/2 ft) over tracks of railroads <p>(C) Clearance from Building Openings. Clearance from building openings shall comply with 230.9(C).</p> <p>(D) Clearance from Swimming Pools, Fountains, and Similar Installations. Clearances from swimming pools, fountains, and similar installations shall comply with 680.9.</p> <p>(E) Clearance from Communication Wires and Cables. Clearance from communication wires and cables shall be in accordance with 800.44(A)(4).)</p>	<p>4/18/2024 Committee agrees with removing strikethrough</p>
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S	230.26	Point of Attachment	<p>230.26 ((Point of Attachment. The point of attachment of the overhead service conductors to a building or other structure shall provide the minimum clearances as specified in 230.9 and 230.24. In no case shall this point of attachment be less than 3.0 m (10 ft) above finished grade.)) Reserved.</p>	<p>230.26 Point of Attachment. The point of attachment of the overhead service conductors to a building or other structure shall provide the minimum clearances as specified in 230.9 and 230.24. In no case shall this point of attachment be less than 3.0 m (10 ft) above finished grade.</p>	<p>No WAC amendment.</p> <p>Seattle proposes: un-striking this section. Same reason as 230.24 above. Could be useful to have this authority</p> <p>4/18/2024 Committee agrees with removing strikethrough</p>
S	230.27	Means of Attachment.	<p>230.27 ((Means of Attachment. Multiconductor cables used for overhead service conductors shall be attached to buildings or other structures by fittings identified for use with service conductors. Open conductors shall be attached to fittings identified for use with service conductors or to noncombustible, nonabsorbent insulators securely attached to the building or other structure.)) Reserved.</p>	<p>230.27 ((Means of Attachment. Multiconductor cables used for overhead service conductors shall be attached to buildings or other structures by fittings identified for use with service conductors. Open conductors shall be attached to fittings identified for use with service conductors or to noncombustible, nonabsorbent insulators securely attached to the building or other structure.)) Reserved.</p>	<p>No WAC amendment.</p> <p>Seattle proposes: Carry forward striking of 2020 SEC 230.27 and overlay on 2023 NEC language.</p>
W	230.28	Service Masts as Supports.	<p>230.28 Service Masts as Supports. Only electrical utility ((power service drop or overhead service)) conductors shall be ((permitted to be)) attached to a service mast. Service masts used for the support of electrical utility ((service drop or overhead service drops)) conductors shall ((be installed in accordance with 230.28(A) and (B).)) comply with all of the following:</p> <p>((A) Strength. The service mast shall be of adequate strength or be supported by braces or guy wires to withstand safely the strain imposed by the service drop or overhead service conductors. Hubs intended for use with a conduit that serves as a service mast shall be identified for use with service entrance equipment.</p> <p>((B) Attachment. Service drop or overhead service conductors shall not be attached to a service mast between a weatherhead or the end of the conduit and a coupling, where the coupling is located above the last point of securement to the building or other structure or is located above the building or other structure.))</p> <p>(A) Be of rigid steel galvanized conduit having a diameter no smaller than 51 mm (2 in.).</p> <p>(B) Have raceway fittings identified for use with galvanized rigid steel (GRC).</p> <p>(C) Support only electric utility conductors.</p> <p>(D) Be attached to a bracket on the mast or other approved structure located with 610 mm (24 in.) of the mast.</p> <p>(E) Support service conduits by one of the methods identified in WAC 296-46B-230 028 and drawings E-101 through E-103 with corresponding notes. Snuggle bars properly installed between wood framing members are permitted.</p> <p>(F) Be rigidly supported with brackets or guy wires for masts extending over 661 mm (26 in.) from upper supporting means.</p> <p>Informational Note: The serving utility shall be consulted for bracket and guy wire requirements.</p> <p>(G) Have openings protected by approved neoprene or lead flashing to create a watertight seal where service conduit passes through the roof.</p>	<p>230.28 Service Masts as Supports. Only electrical utility ((power service drop or overhead service)) conductors shall be ((permitted to be)) attached to a service mast. Service masts used for the support of electrical utility ((service drop or overhead service drops)) conductors shall ((be installed in accordance with 230.28(A) and (B).)) comply with all of the following:</p> <p>((A) Strength. The service mast shall be of adequate strength or be supported by braces or guy wires to withstand safely the strain imposed by the service drop or overhead service conductors. Hubs intended for use with a conduit that serves as a service mast shall be identified for use with service entrance equipment.</p> <p>((B) Attachment. Service drop or overhead service conductors shall not be attached to a service mast between a weatherhead or the end of the conduit and a coupling, where the coupling is located above the last point of securement to the building or other structure or is located above the building or other structure.))</p> <p>(A) Be of rigid steel galvanized conduit having a diameter no smaller than 51 mm (2 in.).</p> <p>(B) Have raceway fittings identified for use with galvanized rigid steel (GRC).</p> <p>(C) Support only electric utility conductors.</p> <p>(D) Be attached to a bracket on the mast or other approved structure located with 610 mm (24 in.) of the mast.</p> <p>(E) Support service conduits by one of the methods identified in WAC 296-46B-230 028 and drawings E-101 through E-103 with corresponding notes. Snuggle bars properly installed between wood framing members are permitted.</p> <p>(F) Be rigidly supported with brackets or guy wires for masts extending over 661 mm (26 in.) from upper supporting means.</p> <p>Informational Note: The serving utility shall be consulted for bracket and guy wire requirements.</p>	<p>WAC amendment. No changes in NEC.</p> <p>Seattle proposes: Carrying forward 2020 SEC amendments and overlay on 2023 NEC language. (B) is where existing WAC amendment is brought in to 2023 SEC.</p> <p>Add drawings E-101 and E103</p> <p>4/18/2024 Committee: Carry forward and add drawings E-101 through E-103</p>

			<p><u>(H) Locate couplings only below the roofline and below a point of support for the mast.</u></p> <p>Informational Note: WAC 296-46B-230.028, requirements for service mast installations, is incorporated herein.</p>	<p><u>(G) Have openings protected by approved neoprene or lead flashing to create a watertight seal where service conduit passes through the roof.</u></p> <p><u>(H) Locate couplings only below the roofline and below a point of support for the mast.</u></p> <p>Informational Note: WAC 296-46B-230.028, requirements for service mast installations, is incorporated herein.</p>	
	230.29	Supports over Buildings and Wires on or about Buildings or Structures over Water.	<p>230.29 Supports over Buildings and Wires on or about Buildings or Structures over Water. ((Service conductors passing over a roof shall be securely supported by substantial structures. For a grounded system, where the substantial structure is metal, it shall be bonded by means of a bonding jumper and listed connector to the grounded overhead service conductor. Where practicable, such supports shall be independent of the building.))</p> <p><u>(A) All service entrance conductors for piers, docks, wharves, and other structures over water shall terminate in a disconnecting means or service equipment at the street side or end of such structure, or as otherwise approved by the authority having jurisdiction.</u></p> <p><u>Exception: When the vault for the utility transformer is located over water, a disconnecting means for the service entrance conductors shall be provided immediately outside the vault at a location acceptable to the authority having jurisdiction.</u></p> <p>Informational Note: For utility service conductors on piers, docks, or wharves, refer to "Requirements for Electric Service Connection," published by Seattle City Light.</p> <p><u>(B) Service entrance conduit containing wires not protected by circuit breakers or switches and fuses shall follow and be supported on parapets or other walls and shall not be laid upon or across roofs.</u></p> <p><u>(C) All service entrance conduits in the Fire District shall terminate on the side of the building nearest to the lines or mains of the utility. The service shall not terminate over adjacent private property, and shall extend to the street or alley wall of the buildings.</u></p> <p>Informational Note: The Seattle Building Code defines "Fire District" in Chapter 2.</p> <p><u>(D) Open wiring for service conductors shall contact the building at only one point except where the utility will agree to contact the building at more than one point.</u></p> <p><u>(E) No wire access fittings or junction boxes of any type shall be permitted within 4.6 m (15 ft) of the ground level on street, alley, or driveway margins.</u></p>	<p>230.29 Supports over Buildings and Wires on or about Buildings or Structures over Water. ((Service conductors passing over a roof shall be securely supported by substantial structures. For a grounded system, where the substantial structure is metal, it shall be bonded by means of a bonding jumper and listed connector to the grounded overhead service conductor. Where practicable, such supports shall be independent of the building.))</p> <p><u>(A) All service entrance conductors for piers, docks, wharves, and other structures over water shall terminate in a disconnecting means or service equipment at the street side or end of such structure, or as otherwise approved by the authority having jurisdiction.</u></p> <p><u>Exception: When the vault for the utility transformer is located over water, a disconnecting means for the service entrance conductors shall be provided immediately outside the vault at a location acceptable to the authority having jurisdiction.</u></p> <p>Informational Note: For utility service conductors on piers, docks, or wharves, refer to "Requirements for Electric Service Connection," published by Seattle City Light.</p> <p><u>(B) Service entrance conduit containing wires not protected by circuit breakers or switches and fuses shall follow and be supported on parapets or other walls and shall not be laid upon or across roofs.</u></p> <p><u>(C) All service entrance conduits in the Fire District shall terminate on the side of the building nearest to the lines or mains of the utility. The service shall not terminate over adjacent private property, and shall extend to the street or alley wall of the buildings.</u></p> <p>Informational Note: The Seattle Building Code defines "Fire District" in Chapter 2.</p> <p><u>(D) Open wiring for service conductors shall contact the building at only one point except where the utility will agree to contact the building at more than one point.</u></p> <p><u>(E) No wire access fittings or junction boxes of any type shall be permitted within 4.6 m (15 ft) of the ground level on street, alley, or driveway margins.</u></p>	<p>No WAC amendment.</p> <p>Seattle proposes: Carrying forward 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/19/23 Committee: Carry forward to the 2023</p>
	230.30	Installation.	<p>230.30 Installation.</p> <p>(A) Insulation. Underground service conductors shall be insulated for the applied voltage.</p> <p><i>Exception: A grounded conductor shall be permitted to be uninsulated as follows:</i></p> <p>(1) Bare copper used in a raceway (2) Bare copper for direct burial where bare copper is approved to be suitable for the soil conditions</p>	<p>230.30 Installation.</p> <p>(A) Insulation. Underground service conductors shall be insulated for the applied voltage.</p> <p><i>Exception: A grounded conductor shall be permitted to be uninsulated as follows:</i></p> <p>(1) Bare copper used in a raceway (2) Bare copper for direct burial where bare copper is approved to be suitable for the soil conditions</p>	<p>No WAC amendment.</p> <p>Seattle proposes: Carrying forward 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>Slight edit to numbering.</p> <p>Strike through new NEC allowance for TC-ER for service</p>

			<p>(3) Bare copper for direct burial without regard to soil conditions where part of a cable assembly identified for underground use (4) Aluminum or copper-clad aluminum without individual insulation or covering where part of a cable assembly identified for underground use in a raceway or for direct burial</p> <p>(B) Wiring Methods. Underground service conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:</p> <p>(1) Type RMC conduit (2) Type IMC conduit (3) Type NUCC conduit (4) Type HDPE conduit (5) Type PVC conduit (6) Type RTRC conduit ((7) Type IGS cable (8) Type USE conductors or cables (9) Type MV or Type MC cable identified for direct burial applications (10)) (7) Type MI cable, where suitably protected against physical damage and corrosive conditions</p>	<p>(3) Bare copper for direct burial without regard to soil conditions where part of a cable assembly identified for underground use (4) Aluminum or copper-clad aluminum without individual insulation or covering where part of a cable assembly identified for underground use in a raceway or for direct burial</p> <p>(B) Wiring Methods. Underground service conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:</p> <p>(1) Type RMC conduit (2) Type IMC conduit (3) Type NUCC conduit (4) Type HDPE conduit (5) Type PVC conduit (6) Type RTRC conduit ((7) Type IGS cable (8) Type USE conductors or cables (9) Type MV or Type MC cable identified for direct burial applications (10) Type MI cable, where suitably protected against physical damage and corrosive conditions</p> <p>((11) Type TC-ER cable where identified for service entrance use and direct burial applications))</p>	<p>4/19/24 Committee: Strike TC-ER for service</p>
	<p>230.40</p>	<p>Service-Entrance Conductor Sets.</p>	<p>230.40 ((Number of)) Service-Entrance Conductor Sets.</p> <p>(A) Number of Service-Entrance Conductor Sets. Each service drop (set of overhead service conductors), set of underground service conductors, or service lateral shall ((supply only one set of service-entrance conductors)) not leave the development site.</p> <p>NOTE: See SEC 230.4 for additional information about service-entrance conductor sets serving development sites.</p> <p><i>((Exception No. 1: A building with more than one occupancy shall be permitted to have one set of service-entrance conductors for each service, as permitted in 230.2, run to each occupancy or group of occupancies. If the number of service disconnect locations for any given classification of service does not exceed six, the requirements of 230.2(E) shall apply at each location. If the number of service disconnect locations exceeds six for any given supply classification, all service disconnect locations for all supply characteristics, together with any branch circuit or feeder supply sources, if applicable, shall be clearly described using graphics or text, or both, on one or more plaques located in an approved, readily accessible</i></p>	<p>230.40 Service-Entrance Conductor Sets.</p> <p>(A) Number of Service-Entrance Conductor Sets. Each service drop, set of overhead service conductors, set of underground service conductors, or service lateral shall supply only one set of service-entrance conductors.</p> <p>Informational Note: See SEC 230.4 for additional information about service-entrance conductor sets serving development site.</p> <p><i>Exception No. 1: A building with more than one occupancy shall be permitted to have one set of service-entrance conductors for each service, as permitted in 230.2, run to each occupancy or group of occupancies. If the number of service disconnect locations for any given classification of service does not exceed six, the requirements of 230.2(E) shall apply at each location. If the number of service disconnect locations exceeds six for any given supply classification, the following conditions shall apply:</i></p> <p><i>(1) All service disconnect locations for all supply characteristics, together with any branch circuit or feeder</i></p>	<p>WAC amendment.</p> <p>Seattle proposes: Adding “Informational” to the word Note on the informational note directly after 230.40 (A).</p> <p>Un-striking Exception 3(keeping the NEC language on 230.40) but maintaining strike out of overhead service conductors for premises wiring—Seattle doesn’t allow..</p> <p>4-19-23 Committee: Stay with language from NEC but add the Informational note. Committee allowed the NEC language to remain for the A article and added Informational note, and lined out</p>

		<p>location(s) on the building or structure served and as near as practicable to the point(s) of attachment or entry(ies) for each service drop or service lateral and for each set of overhead or underground service conductors.))</p> <p>Exception No. ((2)) 1: Where two to six service disconnecting means in separate enclosures are grouped at one location and supply separate loads from one service drop, ((set of overhead service conductors,)) set of underground service conductors, or service lateral, one set of service-entrance conductors shall be permitted to supply each or several such service equipment enclosures.</p> <p>((Exception No. 3: A one-family dwelling unit and its accessory structures shall be permitted to have one set of service-entrance conductors run to each from a single service drop, set of overhead service conductors, set of underground service conductors, or service lateral.))</p> <p>Exception No. ((4)) 2: Two-family dwellings, multifamily dwellings, and multiple occupancy buildings shall be permitted to have one set of service-entrance conductors installed to supply the circuits covered in 210.25.))</p> <p>Exception No. ((5)) 3: One set of service-entrance conductors connected to the supply side of the normal service disconnecting means shall be permitted to supply each or several systems covered by 230.82(5) or 230.82(6).</p> <p><u>(B) Two-family and multiple-occupancy buildings. A second or additional service drop or lateral to a building having more than one occupancy will be permitted to be installed at a location separate from other service drops or laterals to the building, provided that all the following conditions are complied with:</u></p> <p><u>(1) Each service drop or lateral must be sized in accordance with the NEC for the calculated load to be served by the conductors;</u></p> <p><u>(2) Each service drop or lateral must terminate in listed metering or service equipment;</u></p> <p><u>(3) Each occupant must have access to the occupant’s service disconnecting means;</u></p> <p><u>(4) No more than 6 service disconnects may be supplied from a single transformer;</u></p> <p><u>(5) All service drops or laterals supplying a building must originate at the same transformer or power supply;</u></p> <p><u>(6) A permanent identification plate must be placed at each service disconnect location that identifies all other service disconnect locations in or on the building, the area or units served by each, the total number of service disconnecting means on the building or structure and the area or units served. If a structure consists of multiple buildings (i.e., by virtue of fire separation), all service disconnects in or on the entire structure must be labeled to identify all service disconnects in or on the structure; and</u></p> <p><u>(7) A permanent identification plate must be placed at each feeder disconnecting means identifying the area or units served if</u></p>	<p><u>supply sources, shall be clearly described using graphics or text, or both, on one or more plaques</u></p> <p><u>(2) The plaques shall be located in an approved, readily accessible location(s) on the building or structure served and as near as practicable to the point(s) of attachment or entry(ies) for each service drop or service lateral and for each set of overhead or underground service conductors.</u></p> <p>Exception No. 2: Where two to six service disconnecting means in separate enclosures are grouped at one location and supply separate loads from one service drop, ((set of overhead service conductors)), set of underground service conductors, or service lateral, one set of service-entrance conductors shall be permitted to supply each or several such service equipment enclosures.</p> <p>Exception No. 3: A one-family dwelling unit and its accessory structures shall be permitted to have one set of service-entrance conductors run to each from a single service drop, ((set of overhead service conductors,)) set of underground service conductors, or service lateral.</p> <p>Exception No. 4: Two-family dwellings, multifamily dwellings, and multiple occupancy buildings shall be permitted to have one set of service-entrance conductors installed to supply the circuits covered in 210.25. †</p> <p>Exception No. 5: One set of service-entrance conductors connected to the supply side of the normal service disconnecting means shall be permitted to supply each or several systems covered by 230.82(5) or 230.82(6).</p> <p><u>(B) Two-family and multiple-occupancy buildings. A second or additional service drop or lateral to a building having more than one occupancy will be permitted to be installed at a location separate from other service drops or laterals to the building, provided that all the following conditions are complied with:</u></p> <p><u>(1) Each service drop or lateral must be sized in accordance with the NEC for the calculated load to be served by the conductors;</u></p> <p><u>(2) Each service drop or lateral must terminate in listed metering or service equipment;</u></p> <p><u>(3) Each occupant must have access to the occupant’s service disconnecting means;</u></p> <p><u>(4) No more than 6 service disconnects may be supplied from a single transformer;</u></p> <p><u>(5) All service drops or laterals supplying a building must originate at the same transformer or power supply;</u></p> <p><u>(6) A permanent identification plate must be placed at each service disconnect location that identifies all other service disconnect locations in or on the building, the area or units served by each, the total number of service disconnecting means on the building or structure and the area or units</u></p>	<p>only overhead service conductors (those being premises wiring which Seattle does not allow) We incorporated the WAC comments in B.</p> <p>JLG question: Do we need to keep the strike out of “set of overhead service conductors” and the underlining of “not leave the development site in (A)?”</p>
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N	230.42	Minimum Size and Ampacity	<p>230.42 Minimum Size and Ampacity.</p> <p>Δ (A) General. Service-entrance conductors shall have an ampacity of not less than the maximum load to be served. Conductors shall be sized not less than the largest of 230.42(A)(1) or (A)(2). Loads shall be determined in accordance with Part III, IV, or V of Article 220, as applicable. Ampacity shall be determined from 310.14 and shall comply with 110.14(C). The maximum current of busways shall be that value for which the busway has been listed or labeled.</p> <p><i>Informational Note: For information on busways, see UL 857, Standard for Safety for Busways.</i></p> <p>(1) Where the service-entrance conductors supply continuous loads or any combination of noncontinuous and continuous loads, the minimum service-entrance conductor size shall have an ampacity not less than the sum of the noncontinuous loads plus 125 percent of continuous loads.</p> <p><i>Exception No. 1: Grounded conductors that are not connected to an overcurrent device shall be permitted to be sized at 100 percent of the sum of the continuous and noncontinuous load.</i></p> <p><i>Exception No. 2: The sum of the noncontinuous load and the continuous load if the service-entrance conductors terminate in an overcurrent device where both the overcurrent device and its assembly are listed for operation at 100 percent of their rating shall be permitted.</i></p> <p>(2) The minimum service-entrance conductor size shall have an ampacity not less than the maximum load to be served after the application of any adjustment or correction factors.</p> <p>(B) Specific Installations. In addition to the requirements of 230.42(A), the minimum ampacity for ungrounded conductors for specific installations shall not be less than the rating of the service disconnecting means specified in 230.79(A) through (D).</p> <p>(C) Grounded Conductors. The grounded conductor shall not be smaller than the minimum size as required by 250.24(C).</p> <p>(D) Ungrounded Conductors. If the service conductors have a lesser ampacity than the rating of service equipment with multiple service disconnects permitted by Sections 230.90 or 310.15, or the equipment rating that they terminate in or on, an identification plate showing the ampacity of the conductors must be installed on the service equipment.</p>	<p>230.42 Minimum Size and Ampacity.</p> <p>Δ(A) General. Service-entrance conductors shall have an ampacity of not less than the maximum load to be served. Conductors shall be sized not less than the largest of 230.42(A)(1) or (A)(2). Loads shall be determined in accordance with Part III, IV, or V of Article 220, as applicable. Ampacity shall be determined from 310.14 and shall comply with 110.14(C). The maximum current of busways shall be that value for which the busway has been listed or labeled.</p> <p><i>Informational Note: See UL 857, Standard for Safety for Busways, for information on busways.</i></p> <p>N(1) Continuous and Noncontinuous Loads. Where the service-entrance conductors supply continuous loads or any combination of noncontinuous and continuous loads, the minimum service-entrance conductor size shall have an ampacity not less than the sum of the noncontinuous loads plus 125 percent of continuous loads.</p> <p><i>Exception No. 1: Grounded conductors that are not connected to an overcurrent device shall be permitted to be sized at 100 percent of the sum of the continuous and noncontinuous load.</i></p> <p><i>Exception No. 2: The sum of the noncontinuous load and the continuous load if the service-entrance conductors terminate in an overcurrent device where both the overcurrent device and its assembly are listed for operation at 100 percent of their rating shall be permitted.</i></p> <p>N(2) Application of Adjustment or Correction Factors. The minimum service-entrance conductor size shall have an ampacity not less than the maximum load to be served after the application of any adjustment or correction factors.</p> <p>(B) Specific Installations. In addition to the requirements of 230.42(A), the minimum ampacity for ungrounded conductors for specific installations shall not be less than the rating of the service disconnecting means specified in 230.79(A) through (D).</p> <p>(C) Grounded Conductors. The grounded conductor shall not be smaller than the minimum size as required by 250.24(D).</p> <p>(D) Ungrounded Conductors. If the service conductors have a lesser ampacity than the rating of service equipment with multiple service disconnects permitted by Sections 230.90 or 310.15, or the</p>	<p>WAC amendment</p> <p>Seattle proposes: Carrying forward 2020 SEC amendments and overlay on 2023 NEC language. Item D is WAC amendment with slight editing.</p> <p>4-19-23 Committee: Agreed to carry forward.</p>

			<p><u>Informational Note: WAC 296-46B-230.042(6), requirement for labeling of service equipment, is incorporated herein with edits.</u></p>	<p><u>equipment rating that they terminate in or on, an identification plate showing the ampacity of the conductors must be installed on the service equipment.</u></p> <p><u>Informational Note: WAC 296-46B-230.042(6), requirement for labeling of service equipment, is incorporated herein with edits.</u></p>	
	230.43	<p>Wiring Methods for 1000 Volts, Nominal, or Less.</p>	<p>230.43 Wiring Methods for 1000 Volts, Nominal, or Less. Service-entrance conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:</p> <p>(1) ((Open wiring on insulators)) <u>Reserved</u></p> <p>(2) ((Type IGS cable)) <u>Reserved</u></p> <p>(3) Rigid metal conduit (RMC)</p> <p>(4) Intermediate metal conduit (IMC)</p> <p>(5) ((Electrical metallic tubing (EMT))) <u>Reserved</u></p> <p>(6) ((Electrical nonmetallic tubing)) <u>Reserved</u></p> <p>(7) ((Service entrance cables)) <u>Reserved</u></p> <p>(8) ((Wireways)) <u>Reserved</u></p> <p>(9) Busways</p> <p>(10) ((Auxiliary gutters)) <u>Reserved</u></p> <p>(11) Rigid polyvinyl chloride conduit (PVC)</p> <p>(12) Cablebus</p> <p>(13) <u>Type MC cable that complies with Section 330.10(A)(11), with prior approval of the authority having jurisdiction</u></p> <p>(14) Mineral-insulated, metal-sheathed cable, Type MI</p> <p>(15) ((Flexible metal conduit (FMC) not over 1.8 m (6 ft) long or liquidtight flexible metal conduit (LFMC) not over 1.8 m (6 ft) long between a raceway, or between a raceway and service equipment, with a supply-side bonding jumper routed with the flexible metal conduit (FMC) or the liquidtight flexible metal conduit (LFMC) according to 250.102(A), (B), (C), and (E))) <u>Reserved</u></p> <p>(16) ((Liquidtight flexible nonmetallic conduit LFNC)) <u>Reserved</u></p> <p>(17) High density polyethylene conduit (HDPE)</p> <p>(18) Nonmetallic underground conduit with conductors (NUCC)</p> <p>(19) Reinforced thermosetting resin conduit (RTRC)</p> <p>((20) Type TC-ER cable))</p>	<p>230.43 Wiring Methods for 1000 Volts, Nominal, or Less. Service-entrance conductors shall be installed in accordance with the applicable requirements of this Code covering the type of wiring method used and shall be limited to the following methods:</p> <p>(1) ((Open wiring on insulators)) <u>Reserved</u></p> <p>(2) ((Type IGS cable)) <u>Reserved</u></p> <p>(3) Rigid metal conduit (RMC)</p> <p>(4) Intermediate metal conduit (IMC)</p> <p>(5) ((Electrical metallic tubing (EMT))) <u>Reserved</u></p> <p>(6) ((Electrical nonmetallic tubing)) <u>Reserved</u></p> <p>(7) ((Service entrance cables)) <u>Reserved</u></p> <p>(8) ((Wireways)) <u>Reserved</u></p> <p>(9) Busways</p> <p>(10) ((Auxiliary gutters)) <u>Reserved</u></p> <p>(11) Rigid polyvinyl chloride conduit (PVC)</p> <p>(12) Cablebus</p> <p>(13) Type MC cable that complies with Section 330.10(A)(11), with prior approval of the authority having jurisdiction <u>Reserved</u></p> <p>(14) Mineral-insulated, metal-sheathed cable, Type MI</p> <p>(15) ((Flexible metal conduit (FMC) not over 1.8 m (6 ft) long or liquidtight flexible metal conduit (LFMC) not over 1.8 m (6 ft) long between a raceway, or between a raceway and service equipment, with a supply-side bonding jumper routed with the flexible metal conduit (FMC) or the liquidtight flexible metal conduit (LFMC) according to 250.102(A), (B), (C), and (E))) <u>Reserved</u></p> <p>(16) ((Liquidtight flexible nonmetallic conduit LFNC)) <u>Reserved</u></p> <p>(17) High density polyethylene conduit (HDPE)</p> <p>(18) Nonmetallic underground conduit with conductors (NUCC)</p> <p>(19) Reinforced thermosetting resin conduit (RTRC)</p> <p>(20) Type TC-ER cable where identified for use as service entrance conductors</p> <p>(21) Flexible bus systems</p>	<p>WAC amendment</p> <p>Seattle proposes: Editing this section to match the WAC. Allow for wireways, gutters, and EMT.</p> <p>Remove requirement for MC allowance to be PVC coated, doesn't make sense for indoor installations.</p> <p>Aligning section with the State on not allowing MC.</p> <p>Add informational note that we are aligning with the WAC requirements with edits.</p> <p>4-19-24 Committee: Same comments from 2020, but struck MC. Any could be allowed by a One Time Exception. We added the language from the WAC.</p>

				<p><u>Exception: Wiring methods per NEC 230.43 shall be permitted for service conductors within a building or structure when those conductors are protected by customer owned supply side overcurrent protection sized per NEC 240.4. Existing electrical metallic tubing, installed prior to October 1984, which is properly grounded and used for service entrance conductors may be permitted to remain if the conduit is installed in a nonaccessible location and is the proper size for the installed conductors.</u></p> <p><u>Informational note: The requirements of 296-46B-230 043 (7 & 8) are incorporated herein with edits</u></p>	
S	230.44	Cable Trays	<p>230.44 Cable Trays. Cable tray systems (shall) may with prior approval of the authority having jurisdiction, be permitted to support service-entrance conductors. Cable trays used to support service-entrance conductors shall contain only service-entrance conductors and shall be limited to the following methods:</p> <p>((1) Type SE cable</p> <p>(2)) (1) Type MC cable</p> <p>((3)) (2) Type MI cable</p> <p>((4) Type IGS cable</p> <p>(5) Single conductors 1/0 and larger that are listed for use in cable tray</p> <p>(6) Type TC-ER cable))</p> <p>Such cable trays shall be identified with permanently affixed labels with the wording “Service-Entrance Conductors.” The labels shall be located so as to be visible after installation with a spacing not to exceed 3 m (10 ft) so that the service-entrance conductors are able to be readily traced through the entire length of the cable tray.</p> <p><i>Exception: Conductors, other than service-entrance conductors, shall be permitted to be installed in a cable tray with service entrance conductors, provided a solid fixed barrier of a material compatible with the cable tray is installed to separate the service-entrance conductors from other conductors installed in the cable tray.</i></p>	<p>230.44 Cable Trays. Cable tray systems (shall) may with prior approval of the authority having jurisdiction, be permitted to support service-entrance conductors. Cable trays used to support service-entrance conductors shall contain only service-entrance conductors and shall be limited to the following methods:</p> <p>((1) Type SE cable)</p> <p>(2) ((Type MC cable))</p> <p>(3) Type MI cable</p> <p>((4) Type IGS cable</p> <p>(5) Single conductors 1/0 and larger that are listed for use in cable tray</p> <p>(6) Type TC-ER cable))</p> <p>Such cable trays shall be identified with permanently affixed labels with the wording “Service-Entrance Conductors.” The labels shall be located so as to be visible after installation with a spacing not to exceed 3 m (10 ft) so that the service-entrance conductors are able to be readily traced through the entire length of the cable tray.</p> <p><i>Exception: Conductors, other than service-entrance conductors, shall be permitted to be installed in a cable tray with service entrance conductors, provided a solid fixed barrier <u>identified for use with the cable tray is installed to separate the service-entrance conductors from other conductors installed in the cable tray.</u></i></p>	<p>No WAC amendment</p> <p>Seattle proposes:</p> <p>Carry forward 2020 NEC amendments and overlay onto 2023 NEC language.</p> <p>Adjust numbering.</p> <p>Eliminate Type MC cable for cable trays used to support service-entrance conductors.</p> <p>Small NEC change</p> <p>4/22/2024 Committee: Carry forward and remove MC cable</p>
S	230.46	Spliced and Tapped Conductors	<p>230.46 Spliced and Tapped Conductors. Service-entrance conductors shall be permitted to be spliced or tapped in accordance with 110.14, 300.5(E), 300.13, and 300.15, <u>only by special permission of the authority having jurisdiction.</u> Power distribution blocks, pressure connectors, and devices for splices and taps shall be listed. Power distribution blocks installed on service conductors shall be marked “suitable for use on the line side of the service equipment” or equivalent.</p> <p>Effective January 1, 2023, pressure connectors and devices for splices and taps installed on service conductors shall be marked “suitable for use on the line side of the service equipment” or equivalent.</p>	<p>230.46 Spliced and Tapped Conductors. Service-entrance conductors shall be permitted to be spliced or tapped in accordance with 110.14, 300.5(E), 300.13, and 300.15 <u>only by special permission of the authority having jurisdiction.</u> Power distribution blocks, pressure connectors, and devices for splices and taps shall be listed. Power distribution blocks installed on service conductors shall be marked “suitable for use on the line side of the service equipment” or equivalent.</p> <p>Pressure connectors and devices for splices and taps installed on service conductors shall be marked “suitable for use on the line side of the service equipment” or equivalent.</p>	<p>No WAC amendments. Small NEC change.</p> <p>Seattle proposes:</p> <p>Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written.</p>
S	230.50	Protection Against	<p>230.50 Protection Against Physical Damage.</p>	<p>230.50 Protection Against Physical Damage.</p>	<p>No WAC amendments. No NEC or SEC changes.</p> <p>Seattle proposes:</p>

		Physical Damage.	<p>(A) Underground Service-Entrance Conductors. Underground service-entrance conductors shall be protected against physical damage in accordance with 300.5.</p> <p>(B) All Other Service-Entrance Conductors. All other service entrance conductors, other than underground service entrance conductors, shall be protected against physical damage ((as specified in 230.50(B)(1) or (B)(2)).</p> <p>(1) Service-Entrance Cables. Service entrance cables, where subject to physical damage, shall be protected by any of the following:</p> <ul style="list-style-type: none"> (1) Rigid metal conduit (RMC) (2) Intermediate metal conduit (IMC) (3) Schedule 80 PVC conduit (4) Electrical metallic tubing (EMT) (5) Reinforced thermosetting resin conduit (RTRC) (6) Other approved means <p>(2) Other Than Service-Entrance Cables. Individual open conductors and cables, other than service entrance cables, shall not be installed within 3.0 m (10 ft) of grade level or where exposed to physical damage.</p> <p><i>Exception: Type MI and Type MC cable shall be permitted within 3.0 m (10 ft) of grade level where not exposed to physical damage or where protected in accordance with 300.5(D).)</i></p>	<p>(A) Underground Service-Entrance Conductors. Underground service-entrance conductors shall be protected against physical damage in accordance with 300.5.</p> <p>(B) All Other Service-Entrance Conductors. All other service entrance conductors, other than underground service entrance conductors, shall be protected against physical damage ((as specified in 230.50(B)(1) or (B)(2)).</p> <p>(1) Service-Entrance Cables. Service entrance cables, where subject to physical damage, shall be protected by any of the following:</p> <ul style="list-style-type: none"> (1) Rigid metal conduit (RMC) (2) Intermediate metal conduit (IMC) (3) Schedule 80 PVC conduit (4) Electrical metallic tubing (EMT) (5) Reinforced thermosetting resin conduit (RTRC) (6) Other approved means <p>(2) Other Than Service-Entrance Cables. Individual open conductors and cables, other than service entrance cables, shall not be installed within 3.0 m (10 ft) of grade level or where exposed to physical damage.</p> <p><i>Exception: Type MI and Type MC cable shall be permitted within 3.0 m (10 ft) of grade level where not exposed to physical damage or where protected in accordance with 300.5(D).)</i></p>	<p>Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written.</p>
S	230.51	Mounting Supports.	<p>230.51 Mounting Supports. Service entrance cables or individual open service entrance conductors shall be supported as specified in 230.51(A), (B), or (C).</p> <p>(A) Service-Entrance Cables. Service entrance cables shall be supported by straps or other approved means within 300 mm (12 in.) of every service head, gooseneck, or connection to a raceway or enclosure and at intervals not exceeding 750 mm (30 in.).</p> <p>(B) Other Cables. Cables that are not approved for mounting in contact with a building or other structure shall be mounted on insulating supports installed at intervals not exceeding 4.5 m (15 ft) and in a manner that maintains a clearance of not less than 50 mm (2 in.) from the surface over which they pass.</p> <p>(C) Individual Open Conductors. Individual open conductors shall be installed in accordance with Table 230.51(C). Where exposed to the weather, the conductors shall be mounted on insulators or on insulating supports attached to racks, brackets, or other approved means. Where not exposed to the weather, the conductors shall be mounted on glass or porcelain knobs.))</p> <p>Table 230.51(C), Supports, is not adopted.</p>	<p>(230.51 Mounting Supports. Service entrance cables or individual open service entrance conductors shall be supported as specified in 230.51(A), (B), or (C).</p> <p>(A) Service-Entrance Cables. Service entrance cables shall be supported by straps or other approved means within 300 mm (12 in.) of every service head, gooseneck, or connection to a raceway or enclosure and at intervals not exceeding 750 mm (30 in.).</p> <p>(B) Other Cables. Cables that are not approved for mounting in contact with a building or other structure shall be mounted on insulating supports installed at intervals not exceeding 4.5 m (15 ft) and in a manner that maintains a clearance of not less than 50 mm (2 in.) from the surface over which they pass.</p> <p>(C) Individual Open Conductors. Individual open conductors shall be installed in accordance with Table 230.51(C). Where exposed to the weather, the conductors shall be mounted on insulators or on insulating supports attached to racks, brackets, or other approved means. Where not exposed to the weather, the conductors shall be mounted on glass or porcelain knobs.))</p> <p>Table 230.51(C), Supports, is not adopted.</p>	<p>No WAC amendments. No NEC or SEC changes.</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written.</p>

S	230.52	Individual Conductors Entering Buildings or Other Structures.	<p>((230.52 Individual Conductors Entering Buildings or Other Structures. Where individual open conductors enter a building or other structure, they shall enter through roof bushings or through the wall in an upward slant through individual, noncombustible, nonabsorbent insulating tubes. Drip loops shall be formed on the conductors before they enter the tubes.))</p>	<p>((230.52 Individual Conductors Entering Buildings or Other Structures. Where individual open conductors enter a building or other structure, they shall enter through roof bushings or through the wall in an upward slant through individual, noncombustible, nonabsorbent insulating tubes. Drip loops shall be formed on the conductors before they enter the tubes.))</p>	<p>No WAC amendments. No NEC or SEC changes.</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written.</p>
S	230.54	Overhead Service-Drop Locations.	<p>230.54 Overhead Service-Drop Locations.</p> <p>(A) Service Head. Service raceways shall be equipped with a service head at the point of connection to service-drop or ((overhead service)) conductors. The service head shall be listed for use in wet locations.</p> <p>(B) ((Service Entrance Cables Equipped with Service Head or Gooseneck. Service entrance cables shall be equipped with a service head. The service head shall be listed for use in wet locations.)) Reserved.</p> <p><i>((Exception: Type SE cable shall be permitted to be formed in a gooseneck and taped with a self-sealing weather-resistant thermoplastic.))</i></p> <p>(C) Service Heads and Goosenecks Above Service-Drop. ((or Overhead Service Attachment)) Service heads on raceways or service-entrance ((cables)) conductors and goosenecks in service-entrance cables shall be located above the point of attachment of the service-drop ((or overhead service conductors)) to the building or other structure.</p> <p><i>Exception: Where it is impracticable to locate the service head or gooseneck above the point of attachment, the service head or gooseneck location shall be permitted not farther than 600 mm (24 in.) from the point of attachment.</i></p> <p>(D) ((Secured. Service entrance cables shall be held securely in place.)) Reserved.</p> <p>(E) Separately Bushed Openings. Service heads shall have conductors of different potential brought out through separately bushed openings.</p> <p><i>((Exception: For jacketed multiconductor service entrance cable without splice.))</i></p> <p>(F) Drip Loops. Drip loops shall be formed on individual conductors. To prevent the entrance of moisture, service entrance conductors shall be connected to the service-drop ((or overhead service)) conductors either (1) below the level of the service head or (2) below the level of the termination of the service-entrance cable sheath.</p> <p>(G) Arranged That Water Will Not Enter Service Raceway or Equipment. Service-entrance ((and overhead service)) conductors shall be arranged so that water will not enter service raceway or equipment.</p> <p>(H) Length at Weatherhead. Service-entrance conductors shall extend at least 457 mm (18 in.) from the weatherhead to allow connection. Where</p>	<p>230.54 Overhead Service-Drop Locations.</p> <p>(A) Service Head. Service raceways shall be equipped with a service head at the point of connection to service-drop or ((overhead service)) conductors. The service head shall be listed for use in wet locations.</p> <p>(B) ((Service Entrance Cables Equipped with Service Head or Gooseneck. Service entrance cables shall be equipped with a service head. The service head shall be listed for use in wet locations.)) Reserved.</p> <p><i>((Exception: Type SE cable shall be permitted to be formed in a gooseneck and taped with a self-sealing weather-resistant thermoplastic.))</i></p> <p>(C) Service Heads and Goosenecks Above Service-Drop. ((or Overhead Service Attachment)) Service heads on raceways or service-entrance ((cables)) conductors and goosenecks in service-entrance cables shall be located above the point of attachment of the service-drop ((or overhead service conductors)) to the building or other structure.</p> <p><i>Exception: Where it is impracticable to locate the service head or gooseneck above the point of attachment, the service head or gooseneck location shall be permitted not farther than 600 mm (24 in.) from the point of attachment.</i></p> <p>(D) ((Secured. Service entrance cables shall be held securely in place.)) Reserved.</p> <p>(E) Separately Bushed Openings. Service heads shall have conductors of different potential brought out through separately bushed openings.</p> <p><i>((Exception: For jacketed multiconductor service entrance cable without splice.))</i></p> <p>(F) Drip Loops. Drip loops shall be formed on individual conductors. To prevent the entrance of moisture, service entrance conductors shall be connected to the service-drop ((or overhead service)) conductors either (1) below the level of the service head or (2) below the level of the termination of the service-entrance cable sheath.</p> <p>(G) Arranged That Water Will Not Enter Service Raceway or Equipment. Service-entrance ((and overhead service)) conductors</p>	<p>No WAC amendments. No NEC or SEC changes.</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written</p>

			<p><u>multiple service-entrance raceways are provided, each service-entrance conductor shall extend at least 762 mm (30 in.) from the weatherhead to allow connection.</u></p> <p>Informational Note: Drawings E-101, E-102, and E-103 adopted in Section 230.28 of this Code and contained in WAC 296-46B-230 together with the associated drawing notes, illustrate code compliant installations.</p>	<p>shall be arranged so that water will not enter service raceway or equipment.</p> <p>(H) Length at Weatherhead. Service-entrance conductors shall extend at least 457 mm (18 in.) from the weatherhead to allow connection. Where multiple service-entrance raceways are provided, each service-entrance conductor shall extend at least 762 mm (30 in.) from the weatherhead to allow connection.</p> <p>Informational Note: Drawings E-101, E-102, and E-103 adopted in Section 230.28 of this Code and contained in WAC 296-46B-230 together with the associated drawing notes, illustrate code compliant installations.</p>	
W	230.70	General	<p>230.70 General. Means shall be provided to disconnect all ungrounded conductors in a building or other structure from the service entrance conductors.</p> <p>(A) Location. The service disconnecting means shall be installed in accordance with 230.70(A)(1), (A)(2), ((and)) (A)(3), and (A)(4).</p> <p>(1) Readily Accessible Location. ((The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.)) <u>Service disconnecting means shall be in a readily accessible location including after any subsequent building alterations or additions as follows:</u></p> <p><u>(a) Outside location. Service disconnecting means will be permitted on the building or structure or within sight and within 15 feet of the building or structure served. The building disconnecting means may supply only one building or structure. The service disconnecting means must have an identification plate with one-half-inch high letters identifying:</u></p> <p><u>(1) The building or structure served; and</u></p> <p><u>(2) Its function as the building or structure main service disconnect(s).</u></p> <p>Informational Note: WAC 296-46B-230.001, requirements for inside and outside readily accessible location, are incorporated herein.</p> <p><u>(b) Inside location. When the service disconnecting means is installed inside the building or structure, it must be located so that the service raceway extends no more than 15 feet inside the building or structure.</u></p> <p>(2) Bathrooms and Other Wet Locations. Service disconnecting means shall not be installed in bathrooms, toilet rooms, or shower rooms, nor above washers, water heaters, sinks, plumbing fixtures, or drain boards.</p> <p>(3) Other Locations. Service disconnecting means shall not be installed in clothes closets, cupboards, or attics, nor under or over stairways, nor within any stairway enclosure nor over ranges and dryers.</p> <p><i>Exception: In one- and two-family dwellings, service disconnecting means may be installed over a stairway landing</i></p>	<p>230.70 General. Means shall be provided to disconnect all ungrounded conductors in a building or other structure from the service conductors.</p> <p>(A) Location. The service disconnecting means shall be installed in accordance with 230.70(A)(1), (A)(2), and (A)(3).</p> <p>(1) Readily Accessible Location. ((The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.)) <u>Service disconnecting means shall be in a readily accessible location including after any subsequent building alterations or additions as follows:</u></p> <p><u>(a) Outside location. Service disconnecting means will be permitted on the building or structure or within sight and within 15 feet of the building or structure served. The building disconnecting means may supply only one building or structure. The service disconnecting means must have an identification plate with one-half-inch high letters identifying:</u></p> <p><u>(1) The building or structure served; and</u></p> <p><u>(2) Its function as the building or structure main service disconnect(s).</u></p> <p>Informational Note: WAC 296-46B-230.001, requirements for inside and outside readily accessible location, are incorporated herein.</p> <p><u>(b) Inside location. When the service disconnecting means is installed inside the building or structure, it must be located so that the service raceway extends no more than 15 feet inside the building or structure.</u></p> <p>(2) Bathrooms and Other Wet Locations. Service disconnecting means shall not be installed in bathrooms, toilet rooms, or shower rooms, clothes closets, cupboards, attics, under or over stairways, within any stairway enclosure, nor above washers, water heaters, sinks, plumbing fixtures, drain boards, ranges or dryers.</p> <p>(3) Other Locations. Service disconnecting means shall not be installed in clothes closets, cupboards, or attics, nor under</p>	<p>WAC amendment. Slight NEC change.</p> <p>Seattle proposes:</p> <p>Combining 2020 SEC (A)(2) and (A)(3), remove renumbering of “remote control”</p> <p>4/22/2024 Committee: Adopt as written</p>

			<p><i>that has no less than the clear working space required by this Code.</i></p> <p>((3)) (4) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1).</p> <p>(B) Marking. Each service disconnect shall be permanently marked to identify it as a service disconnect.</p> <p>(C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the requirements of Articles 500 through 517.</p>	<p>or over stairways, nor within any stairway enclosure nor over ranges and dryers.</p> <p><i>Exception: In one- and two-family dwellings, service disconnecting means may be installed over a stairway landing that has no less than the clear working space required by this Code.</i></p> <p>(3) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1).</p> <p>(B) Marking. Each service disconnect shall be permanently marked to identify it as a service disconnect.</p> <p>Δ(C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the hazardous location requirements.</p>	
S	230.82	Equipment Connected to the Supply Side of Service Disconnect.	<p>230.82 Equipment Connected to the Supply Side of Service Disconnect. Only the following equipment shall be permitted to be connected to the supply side of the service disconnecting means:</p> <p>(1) ((Cable)) Existing installation of cable limiters by special permission of the authority having jurisdiction.</p> <p>(2) Meters and meter sockets nominally rated not in excess of 1000 volts, if all metal housings and service enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250. <u>Taps under meter socket lugs shall not be permitted, except by prior approval from the authority having jurisdiction.</u></p> <p>(3) Meter disconnect switches nominally rated not in excess of 1000 volts that have a short-circuit current rating equal to or greater than the available fault current, if all metal housings and service enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250. A meter disconnect switch shall be capable of interrupting the load served. A meter disconnect shall be legibly field marked on its exterior in a manner suitable for the environment as follows:</p> <p style="text-align: center;">METER DISCONNECT NOT SERVICE EQUIPMENT</p> <p>(4) Instrument transformers (current and voltage), impedance shunts, load management devices, surge arresters, and Type 1 surge-protective devices.</p> <p>(5) Conductors used to supply load management devices, circuits for standby power systems, fire pump equipment, and fire and sprinkler alarms, if provided with service equipment and installed in accordance with requirements for service-entrance conductors.</p> <p>(6) Solar photovoltaic systems, fuel cell systems, wind electric systems, energy storage systems, or interconnected electric power production sources, if provided with a disconnecting means listed as suitable for use</p>	<p>Δ 230.82 Equipment Connected to the Supply Side of Service Disconnect. Only the following equipment shall be permitted to be connected to the supply side of the service disconnecting means:</p> <p>(1) Existing installations of cable limiters by special permission of the authority having jurisdiction.</p> <p>(2) Meters and meter sockets nominally rated not in excess of 1000 volts, if all metal housings and service enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250. <u>Taps under meter socket lugs shall not be permitted, except by prior approval from the authority having jurisdiction.</u></p> <p>(3) Meter disconnect switches nominally rated not in excess of 1000 volts that have a short-circuit current rating equal to or greater than the available fault current, if all metal housings and service enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250. A meter disconnect switch shall be capable of interrupting the load served. A meter disconnect shall be legibly field marked on its exterior in a manner suitable for the environment as follows:</p> <p style="text-align: center;">METER DISCONNECT NOT SERVICE EQUIPMENT</p> <p>(4) Instrument transformers (current and voltage), impedance shunts, load management devices, surge arresters, and Type 1 surge-protective devices.</p> <p>(5) Conductors used to supply energy management systems, circuits for standby power systems, fire pump equipment, and fire and sprinkler alarms, if provided with service equipment and installed in accordance with requirements for service-entrance conductors.</p> <p>(6) Solar photovoltaic systems, fuel cell systems, wind electric systems, energy storage systems, or interconnected electric power production sources, if provided with a disconnecting means listed as</p>	<p>No WAC amendments. NEC amendment for EMS and other adjustments.</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written. Include NEC changes/ Edits to (1)</p>

		<p>as service equipment, and overcurrent protection as specified in Part VII of Article 230.</p> <p>(7) Control circuits for power-operable service disconnecting means, if suitable overcurrent protection and disconnecting means are provided.</p> <p>(8) Ground-fault protection systems or Type 2 surge-protective devices, where installed as part of listed equipment, if suitable overcurrent protection and disconnecting means are provided.</p> <p>(9) Connections used only to supply listed communications equipment under the exclusive control of the serving electric utility, if suitable overcurrent protection and disconnecting means are provided. For installations of equipment by the serving electric utility, a disconnecting means is not required if the supply is installed as part of a meter socket, such that access can only be gained with the meter removed.</p> <p>(10) Emergency disconnects in accordance with 230.85, if all metal housings and service enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250.</p> <p>(11) Meter-mounted transfer switches nominally rated not in excess of 1000 volts that have a short-circuit current rating equal to or greater than the available fault current. A meter-mounted transfer switch shall be listed and be capable of transferring the load served. A meter-mounted transfer switch shall be marked on its exterior with both of the following:</p> <ul style="list-style-type: none"> a. Meter-mounted transfer switch b. Not service equipment <p><u>(12) Current transformer cabinets shall contain only the main service conductors, metering equipment, secondary wiring, and bonding conductors. One tap shall be permitted on the load side of the current transformers for a legally required standby service and one tap shall be permitted on the load side of the current transformers for a fire pump service. One additional normal power service tap from the current transformer enclosure may be made by special permission of the service utility. In a single-family dwelling, two connections shall be permitted on the load side of the current transformers. No other taps shall be permitted. Approved terminal lugs shall be provided for the main service conductors, and for all taps and bonding conductors.</u></p> <p><u>(13) Listed service accessory bus gutters or termination boxes that are approved for use on the line side of service equipment. Junction and pull boxes are not permitted except as allowed in (6) of this section.</u></p>	<p>suitable for use as service equipment, and overcurrent protection as specified in Part VII of Article 230.</p> <p>(7) Control circuits for power-operable service disconnecting means, if suitable overcurrent protection and disconnecting means are provided.</p> <p>(8) Ground-fault protection systems or Type 2 surge-protective devices, where installed as part of listed equipment, if suitable overcurrent protection and disconnecting means are provided.</p> <p>(9) Connections used only to supply listed communications equipment under the exclusive control of the serving electric utility, if suitable overcurrent protection and disconnecting means are provided. For installations of equipment by the serving electric utility, a disconnecting means is not required if the supply is installed as part of a meter socket, such that access can only be gained with the meter removed.</p> <p>(10) Emergency disconnects in accordance with 230.85(B)(2) and (B)(3), if all metal housings and enclosures are grounded in accordance with Part VII and bonded in accordance with Part V of Article 250.</p> <p>(11) Meter-mounted transfer switches nominally rated not in excess of 1000 volts that have a short-circuit current rating equal to or greater than the available fault current. A meter-mounted transfer switch shall be listed and be capable of transferring the load served. A meter-mounted transfer switch shall be marked on its exterior with both of the following:</p> <ul style="list-style-type: none"> a. Meter-mounted transfer switch b. Not service equipment <p>(12) Control power circuits for protective relays where installed as part of listed equipment, if overcurrent protection and disconnecting means are provided.</p> <p><u>(13) Current transformer cabinets shall contain only the main service conductors, metering equipment, secondary wiring, and bonding conductors. One tap shall be permitted on the load side of the current transformers for a legally required standby service and one tap shall be permitted on the load side of the current transformers for a fire pump service. One additional normal power service tap from the current transformer enclosure may be made by special permission of the service utility. In a single-family dwelling, two connections shall be permitted on the load side of the current transformers. No other taps shall be permitted. Approved terminal lugs shall be provided for the main service conductors, and for all taps and bonding conductors.</u></p> <p><u>(14) Listed service accessory bus gutters or termination boxes that are approved for use on the line side of service equipment. Junction and pull boxes are not permitted except as allowed in (6) of this section.</u></p>	
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W	230.85	Emergency Disconnects.	None	<p>230.85 Emergency Disconnects. For one- and two-family dwelling units, an emergency disconnecting means shall be installed.</p> <p>(A) General.</p> <p>(1) Location. The disconnecting means shall be installed in a readily accessible outdoor location on or within sight of the dwelling unit.</p> <p><i>Exception: Where the requirements of 225.41 are met, this section shall not apply.</i></p> <p>(2) Rating. The disconnecting means shall have a short-circuit current rating equal to or greater than the available fault current.</p> <p>(3) Grouping. If more than one disconnecting means is provided, they shall be grouped.</p> <p>(B) Disconnects. Each disconnect shall be one of the following:</p> <ol style="list-style-type: none"> (1) Service disconnect (2) A meter disconnect integral to the meter mounting equipment not marked as suitable only for use as service equipment installed in accordance with 230.82 (3) Other listed disconnect switch or circuit breaker that is marked suitable for use as service equipment, but not marked as suitable only for use as service equipment, installed on the supply side of each service disconnect <p>Informational Note 1: Conductors between the emergency disconnect and the service disconnect in 230.85(2) and 230.85(3) are service conductors.</p> <p>Informational Note 2: Equipment marked "Suitable only for use as service equipment" includes the factory marking "Service Disconnect".</p> <p>(C) Replacement. Where <u>existing</u> service equipment is replaced, all of the requirements of this section shall apply <u>only if the service ampacity is increased or decreased, or when any one of the following are relocated: service disconnects, meter bases, overhead service masts, or underground service risers.</u></p> <p><i>Exception: Where only meter sockets, service entrance conductors, or related raceways and fittings are replaced, the requirements of this section shall not apply.</i></p> <p><u>Informational note: The requirements and exceptions of WAC 296-46B-230 085 are incorporated herein with edits.</u></p> <p>(D) Identification of Other Isolation Disconnects. Where equipment for isolation of other energy source systems is not located adjacent to the emergency disconnect required by this section, a plaque or directory identifying the location of all equipment for isolation of other energy sources shall be located adjacent to the disconnecting means required by this section.</p>	<p>WAC amendment.</p> <p>Seattle proposes: Incorporating WAC exception for existing services(See C).</p> <p>4/22/2024 Committee: Adopt as written</p>
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				<p>Informational Note: See 445.18, 480.7, 705.20, and 706.15 for examples of other energy source system isolation means.</p> <p>(E) Marking.</p> <p>(1) Marking Text. The disconnecting means shall marked as follows:</p> <p>(1) Service disconnect</p> <p>EMERGENCY DISCONNECT, SERVICE DISCONNECT</p> <p>(2) Meter disconnects installed in accordance with 230.82(3) and marked as follows:</p> <p>EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT</p> <p>(3) Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are marked suitable for use as service equipment and marked as follows:</p> <p>EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT</p> <p>(2) Marking Location and Size. Markings shall comply with 110.21(B) and both of the following:</p> <p>(1) The marking or labels shall be located on the outside front of the disconnect enclosure with red background and white text.</p> <p>(2) The letters shall be at least 13 mm (1/2 in.) high.</p>	
S	230.90	Where Required.	<p>230.90 Where Required. Each ungrounded service conductor shall have overload protection. <u>If the service conductors have a lesser ampacity than the rating of service equipment with multiple service disconnects permitted by Sections 230.90 or 310.15 of this Code, an identification plate showing the ampacity of the conductors must be installed on the service equipment.</u></p> <p>Informational Note: WAC 296-46B-230.042(6), requirements for service conductor size and rating, is incorporated herein with edits.</p> <p>⚠ (A) Ungrounded Conductor. Such protection shall be provided by an overcurrent device in series with each ungrounded service conductor that has a rating or setting not higher than the ampacity of the conductor. A set of fuses shall be considered all the fuses required to protect all the ungrounded conductors of a circuit. Single-pole circuit breakers, grouped in accordance with 230.71(B), shall be considered as one protective device.</p> <p><i>Exception No. 1: For motor-starting currents, ratings that comply with 430.52, 430.62, and 430.63 shall be permitted.</i></p>	<p>230.90 Where Required. Each ungrounded service conductor shall have overload protection. <u>If the service conductors have a lesser ampacity than the rating of service equipment with multiple service disconnects permitted by Sections 230.90 or 310.15 of this Code, an identification plate showing the ampacity of the conductors must be installed on the service equipment.</u></p> <p>Informational Note: WAC 296-46B-230.042(6), requirements for service conductor size and rating, is incorporated herein with edits.</p> <p>⚠ (A) Ungrounded Conductor. Such protection shall be provided by an overcurrent device in series with each ungrounded service conductor that has a rating or setting not higher than the ampacity of the conductor. A set of fuses shall be considered all the fuses required to protect all the ungrounded conductors of a circuit. Single-pole circuit breakers, grouped in accordance with 230.71(B), shall be considered as one protective device.</p> <p><i>Exception No. 1: For motor-starting currents, ratings that comply with 430.52, 430.62, and 430.63 shall be permitted.</i></p>	<p>No WAC amendment. NEC change.</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/22/2024 Committee: Adopt as written</p>

		<p><i>Exception No. 2: Fuses and circuit breakers with a rating or setting that complies with 240.4(B) or (C) and 240.6 shall be permitted.</i></p> <p><i>Exception No. 3: Two to six circuit breakers or sets of fuses shall be permitted as the overcurrent device to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load does not exceed the ampacity of the service conductors.</i></p> <p><i>Exception No. 4: Overload protection for fire pump supply conductors shall comply with 695.4(B)(2)(a).</i></p> <p><i>Exception No. 5: Overload protection for 120/240-volt, 3-wire, single-phase dwelling services shall be permitted in accordance with the requirements of 310.12.</i></p> <p>(B) Not in Grounded Conductor. No overcurrent device shall be inserted in a grounded service conductor except a circuit breaker that simultaneously opens all conductors of the circuit.</p>	<p><i>Exception No. 2: Fuses and circuit breakers with a rating or setting that complies with 240.4(B) or (C) and 240.6 shall be permitted.</i></p> <p><i>Exception No. 3: Two to six circuit breakers or sets of fuses shall be permitted as the overcurrent device to provide the overload protection. The sum of the ratings of the circuit breakers or fuses shall be permitted to exceed the ampacity of the service conductors, provided the calculated load does not exceed the ampacity of the service conductors.</i></p> <p><i>Exception No. 4: Overload protection for fire pump supply conductors shall comply with 695.4(B)(2)(a).</i></p> <p><i>Exception No. 5: Overload protection in accordance with the conductor ampacities of 310.12 shall be permitted for single-phase dwelling services.</i></p> <p>(B) Not in Grounded Conductor. No overcurrent device shall be inserted in a grounded service conductor except a circuit breaker that simultaneously opens all conductors of the circuit.</p>	
W, S		<p>230.95 Ground-Fault Protection of Equipment. Ground-fault protection of equipment shall be provided for solidly grounded wye electric services of more than 150 volts to ground but not exceeding 1,000 volts phase-to-phase for each service disconnect rated 1,000 amperes or more. The grounded conductor for the solidly grounded wye system shall be connected directly to ground through a grounding electrode system, as specified in 250.50, without inserting any resistor or impedance device.</p> <p>The rating of the service disconnect shall be considered to be the rating of the largest fuse that can be installed or the highest continuous current trip setting for which the actual overcurrent device installed in a circuit breaker is rated or can be adjusted.</p> <p><i>Exception: The ground-fault protection provisions of this section shall not apply to a service disconnect for a continuous industrial process where a nonorderly shutdown will introduce additional or increased hazards.</i></p> <p>(A) Setting. The ground-fault protection system shall operate to cause the service disconnect to open all ungrounded conductors of the faulted circuit. The maximum setting of the ground-fault protection shall be 1,200 amperes, and the maximum time delay shall be one second for ground-fault currents equal to or greater than 3,000 amperes.</p> <p>(B) Fuses. If a switch and fuse combination is used, the fuses employed shall be capable of interrupting any current higher than the interrupting capacity of the switch during a time that the ground-fault protective system will not cause the switch to open.</p> <p>(C) Performance Testing. The ground-fault protection system shall be performance tested when first installed on site. ((This testing shall be conducted by a qualified person(s) using a test process of primary current injection, in accordance with instructions that shall be provided with the equipment. A written record of this testing shall be made and shall be available to the authority having jurisdiction.))</p> <p><u>The testing shall verify that the system is installed and operates in accordance with the manufacturer's instructions. Testing shall be performed by qualified personnel having proper equipment to complete</u></p>	<p>230.95 Ground-Fault Protection of Equipment. Ground-fault protection of equipment shall be provided for solidly grounded wye electric services of more than 150 volts to ground but not exceeding 1000 volts phase-to-phase for each service disconnect rated 1000 amperes or more. The grounded conductor for the solidly grounded wye system shall be connected directly to ground through a grounding electrode system, as specified in 250.50, without inserting any resistor or impedance device.</p> <p>The rating of the service disconnect shall be considered to be the rating of the largest fuse that can be installed or the highest continuous current trip setting for which the actual overcurrent device installed in a circuit breaker is rated or can be adjusted.</p> <p><i>Exception: The ground-fault protection provisions of this section shall not apply to a service disconnect for a continuous industrial process where a nonorderly shutdown will introduce additional or increased hazards.</i></p> <p>(A) Setting. The ground-fault protection system shall operate to cause the service disconnect to open all ungrounded conductors of the faulted circuit. The maximum setting of the ground-fault protection shall be 1200 amperes, and the maximum time delay shall be one second for ground-fault currents equal to or greater than 3000 amperes.</p> <p>(B) Fuses. If a switch and fuse combination is used, the fuses employed shall be capable of interrupting any current higher than the interrupting capacity of the switch during a time that the ground-fault protective system will not cause the switch to open.</p> <p>(C) Performance Testing. The ground-fault protection system shall be performance tested when first installed on site. ((This testing shall be conducted by a qualified person(s) using a test process of primary current injection, in accordance with instructions that shall be provided with the equipment. A written record of this testing shall be made and shall be available to the authority having jurisdiction.))</p>	<p>WAC amendment</p> <p>Seattle proposes: Carry over 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>Add new informational note indicating info from the WAC has been included in this section.</p> <p>4/22/2024 Committee: adding informational note adopting WAC and adopt as written.'</p>

			<p><u>the acceptance testing in the manner prescribed by the manufacturer. The testing personnel shall sign a written performance acceptance test record. The record shall provide testing details including, but not limited to, measurements and trip settings used during the test.</u></p> <p><u>The written acceptance test record, together with a copy of the manufacturer's performance testing instructions, shall be made available to the inspector for the authority having jurisdiction.</u></p> <p><u>(D) Added Ground-Fault Protection System. Ground fault protection systems added to an existing energized service shall be tested and inspected prior to being placed into service.</u></p> <p>Informational Note No. 1: Ground-fault protection that functions to open the service disconnect affords no protection from faults on the line side of the protective element. It serves only to limit damage to conductors and equipment on the load side in the event of an arcing ground fault on the load side of the protective element.</p> <p>Informational Note No. 2: This added protective equipment at the service equipment may make it necessary to review the overall wiring system for proper selective overcurrent protection coordination. Additional installations of ground-fault protective equipment may be needed on feeders and branch circuits where maximum continuity of electric service is necessary.</p> <p>Informational Note No. 3: Where ground-fault protection is provided for the service disconnect and interconnection is made with another supply system by a transfer device, means or devices may be needed to ensure proper ground-fault sensing by the ground-fault protection equipment.</p> <p>Informational Note No. 4: See 517.17(A) for information on where an additional step of ground-fault protection is required for hospitals and other buildings with critical areas or life support equipment.</p>	<p><u>The testing shall verify that the system is installed and operates in accordance with the manufacturer's instructions. Testing shall be performed by qualified personnel having proper equipment to complete the acceptance testing in the manner prescribed by the manufacturer. The testing personnel shall sign a written performance acceptance test record. The record shall provide testing details including, but not limited to, measurements and trip settings used during the test.</u></p> <p><u>The written acceptance test record, together with a copy of the manufacturer's performance testing instructions, shall be made available to the inspector for the authority having jurisdiction.</u></p> <p><u>(D) Added Ground-Fault Protection System. Ground fault protection systems added to an existing energized service shall be tested and inspected prior to being placed into service.</u></p> <p>Informational Note No. 1: Ground-fault protection that functions to open the service disconnect affords no protection from faults on the line side of the protective element. It serves only to limit damage to conductors and equipment on the load side in the event of an arcing ground fault on the load side of the protective element.</p> <p>Informational Note No. 2: This added protective equipment at the service equipment could make it necessary to review the overall wiring system for proper selective overcurrent protection coordination. Additional installations of ground-fault protective equipment <u>might</u> be needed on feeders and branch circuits where maximum continuity of electric service is necessary.</p> <p>Informational Note No. 3: Where ground-fault protection is provided for the service disconnect and interconnection is made with another supply system by a transfer device, means or devices <u>could</u> be needed to ensure proper ground-fault sensing by the ground-fault protection equipment.</p> <p>Informational Note No. 4: See 517.17(A) for information on where an additional step of ground-fault protection is required for hospitals and other buildings with critical areas or life support equipment.</p> <p><u>Informational Note No. 5: The requirements of WAC 256-46B-230 095 are incorporated herein with edits</u></p>	
S	230.200	General	<p>230.200 General. Service conductors and equipment used on circuits exceeding 1000 volts, nominal, shall comply with all the applicable preceding sections of this article and with the following sections that supplement or modify the preceding sections. In no case shall the provisions of Part VIII apply to equipment on the supply side of the service point.</p> <p>Informational Note No. 1: For clearances of conductors of over 1000 volts, nominal, see ANSI/IEEE C2-2017, <i>National Electrical Safety Code</i>.</p> <p>Informational Note No. 2: WAC 296-46B-230.200 requirements for marking cable over 1,000 volts marking is incorporated herein.</p>	<p><i>Moved to new NEC section 235, do not include in the Quick Reference document.</i></p>	No 2023 WAC amendment
W	230.202	Service-Entrance Conductors.	<p>230.202 Service-Entrance Conductors. Service-entrance conductors to buildings or enclosures shall be installed to conform to 230.202(A) and (B).</p> <p>(A) Conductor Size. Service-entrance conductors shall not be smaller than 6 AWG unless in multiconductor cable. Multiconductor cable shall not be smaller than 8 AWG.</p> <p>(B) Wiring Methods. Service-entrance conductors shall be installed by one of the following wiring methods: ((covered in 300.37 and 300.50.))</p>	<p><i>Moved to new NEC section 235</i></p> <p>230.202 Service-Entrance Conductors. Service-entrance conductors to buildings or enclosures shall be installed to conform to 230.202(A) and (B).</p> <p>(A) Conductor Size. Service-entrance conductors shall not be smaller than 6 AWG unless in multiconductor cable. Multiconductor cable shall not be smaller than 8 AWG.</p>	See notes for 235.402

			<p>(1) Rigid metal conduit (RMC)</p> <p>(2) Intermediate metal conduit (IMC)</p> <p>(3) Schedule 80 rigid polyvinyl chloride (PVC) conduit</p> <p>(4) Busways</p> <p>(5) Cablebus</p> <p>(6) Cable trays only with prior permission of the authority having jurisdiction.</p>	<p>(B) Wiring Methods. Service-entrance conductors shall be installed by one of the following wiring methods: ((covered in 300.37 and 300.50.))</p> <p>(1) Rigid metal conduit (RMC)</p> <p>(2) Intermediate metal conduit (IMC)</p> <p>(3) Schedule 80 rigid polyvinyl chloride (PVC) conduit</p> <p>(4) Busways</p> <p>(5) Cablebus</p> <p>(6) Cable trays only with prior permission of the authority having jurisdiction.</p>	
	235.402	Service-Entrance Conductors	<p><i>New section in NEC. See 230.202 of 2020 SEC..</i></p>	<p>N 235.402 Service-Entrance Conductors. Service-entrance conductors to buildings or enclosures shall be installed to conform to 235.402(A) and (B).</p> <p>N(A) Conductor Size. Service-entrance conductors shall not be smaller than 6 AWG unless in multiconductor cable. Multiconductor cable shall not be smaller than 8 AWG.</p> <p>N(B) Wiring Methods. Service-entrance conductors shall be installed by one of the following wiring methods ((covered in 305.3 and 305.15.)):</p> <p>(1) Rigid metal conduit (RMC)</p> <p>(2) Intermediate metal conduit (IMC)</p> <p>(3) Schedule 80 rigid polyvinyl chloride (PVC) conduit</p> <p>(4) Busways</p> <p>(5) Cablebus</p> <p>(6) Cable trays only with prior permission of the authority having jurisdiction.</p> <p><u>Informational Note No. 2: WAC 296-46B-235 402 requirements are incorporated herein.</u></p>	<p>WAC amendment</p> <p>Seattle proposes: This is a new section for NEC. In 2020 SEC this was section 230.202. Seattle is relocating this with WAC amendments from 2020 SEC 230.202 to 2023 SEC 235.402.</p> <p>Moved informational note to 235.402 from 230.200.</p> <p>4/22/2024 Committee: Adopt as written</p> <p>2023 WAC: 240-402(B) Wiring methods. The installation of service entrance conductors exceeding 1,000 volts ac, 1,500 volts dc, nominal, within a building or structure must be limited to the following methods: Galvanized rigid metal conduit, galvanized intermediate metal conduit, schedule 80 polyvinyl chloride conduit, metal-clad cable that is exposed for its entire length, cablebus, or busways. Exception: Wiring methods per NEC 235.402(B) shall be permitted for service conductors within a building or structure when customer owned overcurrent protection in accordance with NEC requirements is provided outside the building.</p>

		<p>240.24 Location in or on Premises.</p> <p>(A) Accessibility. ((Circuit breakers and switches containing fuses)) <u>Equipment containing overcurrent devices shall be readily accessible, (and installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) above the floor or working platform, unless one of the following applies:))</u></p> <p><i>Exceptions:</i> (1) For busways, as provided in 368.17(C). (2) For supplementary overcurrent protection, as described in 240.10. (3) For overcurrent devices, as described in 225.40 and 230.92. (4) For overcurrent devices adjacent to utilization equipment that they supply, access shall be permitted to be by portable means. (5) For enclosures approved to be pad- or floor-mounted.</p> <p><u>(1) Exterior installations. Overcurrent devices shall be installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) and not less than 24 inches above the exterior finished grade.</u></p> <p><u>(2) Interior installations. Equipment containing over-current protection in interior installations shall be placed so that the lowest possible overcurrent device is no less than one foot (12 inches) above the floor or working platform.</u></p> <p><i>Exception: The use of a tool shall be permitted to access overcurrent devices located within listed industrial control panels or similar enclosures.</i></p> <p><u>Informational Note No. 1: WAC 296-46B-240-024(C). Not exposed to physical damage, is incorporated herein with edits.</u></p> <p>(B) Occupancy. Each occupant shall have ready access to all overcurrent devices protecting the conductors supplying that occupancy, unless otherwise permitted in 240.24(B)(1) and (B)(2).</p> <p>(1) Service and Feeder Overcurrent Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the service overcurrent devices and feeder overcurrent devices supplying more than one occupancy shall be permitted to be accessible only to authorized management personnel in the following:</p> <ol style="list-style-type: none"> (1) Multiple-occupancy buildings (2) Guest rooms or guest suites (3) <u>Boarding homes and congregate living facilities or similar occupancies.</u> <p>(2) Branch-Circuit Overcurrent Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the branch circuit overcurrent devices supplying any guest rooms or guest suites without permanent</p>	<p>240.24 Location in or on Premises.</p> <p>(A) Accessibility. ((Circuit breakers and switches containing fuses)) <u>Equipment containing overcurrent devices shall be readily accessible and installed so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, is not more than 2.0 m (6 ft 7 in.) above the floor or working platform, unless one of the following applies:</u></p> <ol style="list-style-type: none"> (1) For busways, as provided in 368.17(C). (2) For supplementary overcurrent protection, as described in 240.10. (3) For overcurrent protective devices, as described in 225.40 and 230.92. (4) For overcurrent protective devices adjacent to utilization equipment that they supply, access shall be permitted to be by portable means. <p><i>Exception: The use of a tool shall be permitted to access overcurrent protective devices located within listed industrial control panels, within enclosures designed for hazardous (classified) locations or enclosures to protect against environmental conditions. An enclosure within the scope of this exception, and all overcurrent protective device(s) within such enclosures as judged with the enclosure open, shall comply with the accessibility provisions of 240.24(A).</i></p> <p>(B) Occupancy. Each occupant shall have ready access to all overcurrent devices protecting the conductors supplying that occupancy, unless otherwise permitted in 240.24(B)(1) and (B)(2).</p> <p>(1) Service and Feeder Overcurrent Protective Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the service overcurrent protective devices and feeder overcurrent protective devices supplying more than one occupancy shall be permitted to be accessible only to authorized management personnel in the following:</p> <ol style="list-style-type: none"> (1) Multiple-occupancy buildings (2) Guest rooms or guest suites (3) <u>Boarding homes and congregate living facilities or similar occupancies.</u> <p>(2) Branch-Circuit Overcurrent Protective Devices. Where electric service and electrical maintenance are provided by the building management and where these are under continuous building management supervision, the branch-circuit overcurrent protective devices supplying any guest rooms, guest suites, or sleeping rooms in dormitory units without permanent provisions for cooking shall be permitted to be accessible only to authorized management personnel.</p> <p>(3) Dwelling Units, Accessory Dwelling Unit, Two-Family and Multifamily Occupancies. <u>Branch circuit overcurrent devices shall be located either within the dwelling unit that they serve or in common areas accessible to all occupants.</u></p>	<p>WAC amendment</p> <p>Seattle proposes: Reorganized section to reduce confusion and match WAC's organization.</p> <p>Change language to match WAC</p> <p>Remove "Interior Installations" requirement as this is not a WAC requirement.</p> <p>4/23/2024 Committee: Approve with edits as written</p>
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			<p>provisions for cooking shall be permitted to be accessible only to authorized management personnel.</p> <p>(3) Accessory Dwelling Unit, Two-Family and Multifamily Occupancies. Branch circuit overcurrent devices shall be located either within the dwelling unit that they serve or in common areas accessible to all occupants.</p> <p>(C) Not Exposed to Physical Damage. Overcurrent devices shall be located where they will not be exposed to physical damage. Informational Note: See 110.11, Deteriorating Agents.</p> <p>(D) Not in Vicinity of Easily Ignitable Material. Overcurrent devices shall not be located in the vicinity of easily ignitable material, such as in clothes closets.</p> <p>(E) Not Located in Bathrooms. In dwelling units, dormitory units, and guest rooms or guest suites, overcurrent devices, other than supplementary overcurrent protection, shall not be located in bathrooms.</p> <p>(F) Not Located over Steps. Overcurrent devices shall not be located over steps of a stairway.</p>	<p>(C) Not Exposed to Physical Damage. Overcurrent protective devices shall be located where they will not be exposed to physical damage.</p> <p>(1) Exterior installations: Where this code and/or manufacturer's instructions do not specify minimum height requirements for equipment enclosures, enclosures containing an overcurrent protective device installed outdoors shall be installed so the bottom of the enclosure is not less than 24 inches above finished grade unless:</p> <ol style="list-style-type: none"> 1. The equipment enclosure or listed equipment on which the enclosure is mounted is approved for pad-, floor-, ground-, dock-, or pier-mounting; or 2. The equipment enclosure is located over concrete or asphalt paving that extends three or more feet horizontally from the surface of the enclosure. <p>(2) Interior installations. Equipment containing overcurrent protection in interior installations shall be placed so that the lowest possible overcurrent device is no less than one foot (12 inches) above the floor or working platform.</p> <p>Informational Note No. 1: See 110.11 for information on deteriorating agents that could cause physical damage.</p> <p><u>Informational Note No. 2: The requirements of WAC 296-46B-240 024(C) are incorporated herein with edits.</u></p> <p>(D) Not in Vicinity of Easily Ignitable Material. Overcurrent protective devices shall not be located in the vicinity of easily ignitable material, such as in clothes closets.</p> <p>(E) Not Located in Bathrooms. Overcurrent protective devices, other than supplementary overcurrent protection, shall not be located in bathrooms, showering facilities, or locker rooms with showering facilities.</p> <p>(F) Not Located over Steps. Overcurrent protective devices shall not be located over steps of a stairway.</p> <p><i>Exception: If the overcurrent protective device is a part of a panelboard that is being repaired or replaced in an existing location that was approved at the time of installation, the installation shall be allowed over steps.</i></p> <p><u>Informational Note: The exception of WAC 296-46B-240 024(F) is incorporated herein with edits.</u></p>	
S	240.33	Vertical Position	<p>Δ 240.33 Vertical Position. Enclosures for overcurrent devices shall be mounted in a vertical position. Circuit breaker enclosures shall be permitted to be installed horizontally where the circuit breaker is installed in accordance with 240.81. Listed busway plug-in units shall be permitted to be mounted in orientations corresponding to the busway mounting position, when in accordance with 240.81 and 404.7.</p>	<p>240.33 Vertical Position. Enclosures for overcurrent devices shall be mounted in a vertical position. Circuit breaker enclosures shall be permitted to be installed horizontally where the circuit breaker is installed in accordance with 240.81. Listed busway plug-in units shall be permitted to be mounted in orientations corresponding to the</p>	<p>No WAC amendment.</p> <p>Seattle proposes:</p>

				busway mounting position, when in accordance with 240.81 and 404.7.	Carry over 2020 SEC amendment and overly on 2023 NEC language. 4/23/2024 Internal committee: Carry forward SEC language. Not Doing: PGF: I propose removing this. Compliance with 240.81 and 404.7 is required anyway.
W	250.50	Grounding Electrode System	None	<p>250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system. If none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.</p> <p><u>Except for mobile/manufactured homes, a concrete encased grounding electrode must be installed and used at each new building or structure that is built upon a permanent concrete foundation. The electrode must comply with NEC 250.52 (A)(3).</u></p> <p><i>Exception No. 1: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system if the rebar is not accessible for use without disturbing the concrete. <u>Where a concrete encased electrode is not part of the grounding electrode system of an existing building or structure, a concrete encased electrode that may be available as a result of a new addition to the foundation is not required to be connected to service equipment that existed before the addition.</u></i></p> <p><i>Exception No. 2: <u>If the concrete encased grounding electrode is not available for connection, a ground ring or other grounding electrode shall be installed per NEC 250 and verified to measure 25 ohms or less to ground by the inspector. If the concrete encased grounding electrode has not been inspected and approved, but is available for connection, the electrode(s) shall be verified to measure 25 ohms or less to ground by the inspector. A ground resistance test fee shall apply.</u></i></p> <p><u>Informational note: The requirements and exceptions of WAC 296-46B-250 052 are incorporated herein with edits.</u></p>	<p>No WAC amendment located here by Washington State.</p> <p>Seattle proposes:</p> <p>Incorporating WAC language from 250.52 Grounding electrodes in this location. It makes more sense to put it here.</p> <p>The ground ring or ufer test exception from the WAC makes more sense, it keeps us from telling people to chip their footings.</p> <p>Codifies exception for additions with no service work.</p> <p>4/23/2024 Committee: Adopt edits as written</p>
W	250.52	Grounding electrodes	None	<p>250.52 Grounding Electrodes.</p> <p>(A) Electrodes Permitted for Grounding.</p> <p>(1) Metal Underground Water Pipe. A metal underground water pipe in direct contact with the earth for 3.0 m (10 ft) or more (including any metal well casing bonded to the pipe) and electrically continuous (or made electrically continuous by bonding around insulating joints or insulating pipe) to the points of connection of the grounding electrode conductor and the bonding conductor(s) or jumper(s), if installed.</p>	<p>WAC amendment.</p> <p>Seattle proposes:</p> <p>There is a WAC amendment in this section re ufers but it has been relocated to 250.50. This section now has no amendments and will not be printed in the Quick Reference document.</p>

				<p>(2) Metal In-ground Support Structure(s). One or more metal in-ground support structure(s) in direct contact with the earth vertically for 3.0 m (10 ft) or more, with or without concrete encasement. If multiple metal in-ground support structures are present at a building or a structure, it shall be permissible to bond only one into the grounding electrode system.</p> <p>Informational Note: Metal in-ground support structures include, but are not limited to, pilings, casings, and other structural metal.</p> <p>(3) Concrete-Encased Electrode. A concrete-encased electrode shall consist of at least 6.0 m (20 ft) of either of the following:</p> <ul style="list-style-type: none"> (1) One or more bare or zinc galvanized or other electrically conductive coated rebar of not less than 13 mm (1/2 in.) in diameter, installed in one continuous 6.0 m (20 ft) length, or if in multiple pieces, the rebar shall be connected together by steel tie wires, exothermic welding, welding, or other effective means to create a 6.0 m (20 ft) or greater length (2) Bare copper conductor not smaller than 4 AWG <p>Metal components shall be encased by at least 50 mm (2 in.) of concrete and shall be located horizontally within that portion of a concrete foundation or footing that is in direct contact with the earth or within vertical foundations or structural components or members that are in direct contact with the earth. If multiple concrete-encased electrodes are present at a building or structure, it shall be permissible to bond only one into the grounding electrode system.</p> <p>Informational Note: Concrete installed with insulation, vapor barriers, films, or similar items separating the concrete from the earth is not considered to be in "direct contact" with the earth.</p> <p>(4) Ground Ring. A ground ring encircling the building or structure, in direct contact with the earth, consisting of at least 6.0 m (20 ft) of bare copper conductor not smaller than 2 AWG.</p> <p>(5) Rod and Pipe Electrodes. Rod and pipe electrodes shall not be less than 2.44 m (8 ft) in length and consist of the following materials.</p> <ul style="list-style-type: none"> (1) Grounding electrodes of pipe or conduit shall not be smaller than metric designator 21 (trade size 3/4) and, where of steel, shall have the outer surface galvanized or otherwise metal-coated for corrosion protection. (2) Rod-type grounding electrodes of stainless steel and copper or zinc-coated steel shall be at least 15.87 mm (5/8 in.) in diameter, unless listed. 	<p>4/23/2024 Committee agrees to put ufer requirements in 250.50. This section can be deleted</p>
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				<p>(6) Other Listed Electrodes. Other listed grounding electrodes shall be permitted.</p> <p>(7) Plate Electrodes. Each plate electrode shall expose not less than 0.186 m² (2 ft²) of surface to exterior soil. Electrodes of bare or electrically conductive coated iron or steel plates shall be at least 6.4 mm (1/4 in.) in thickness. Solid, uncoated electrodes of nonferrous metal shall be at least 1.5 mm (0.06 in.) in thickness.</p> <p>(8) Other Local Metal Underground Systems or Structures. Other local metal underground systems or structures such as piping systems, underground tanks, and underground metal well casings that are not bonded to a metal water pipe.</p> <p>(B) Not Permitted for Use as Grounding Electrodes. The following systems and materials shall not be used as grounding electrodes:</p> <ul style="list-style-type: none"> (1) Metal underground gas piping systems (2) Aluminum (3) The structures and structural rebar described in 680.26(B)(1) and (B)(2) <p>Informational Note: See 250.104(B) for bonding requirements of gas piping.</p>	
W, S			<p>250.53 Grounding Electrode System Installation.</p> <p>(A) Rod, Pipe, and Plate Electrodes. Rod, pipe, and plate electrodes shall meet the requirements of 250.53(A)(1) through (A)(3).</p> <ul style="list-style-type: none"> (1) Below Permanent Moisture Level. If practicable, rod, pipe, and plate electrodes shall be embedded below permanent moisture level. Rod, pipe, and plate electrodes shall be free from nonconductive coatings such as paint or enamel. (2) Supplemental Electrode Required. A single rod, pipe, or plate electrode shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). The supplemental electrode shall be permitted to be bonded to one of the following: <ul style="list-style-type: none"> (1) Rod, pipe, or plate electrode (2) Grounding electrode conductor (3) Grounded service-entrance conductor (4) Nonflexible grounded service raceway (5) Any grounded service enclosure <p><i>Exception: ((If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or less, the supplemental electrode shall not be required.)) Only one ground rod is required for a temporary service or where one of the following service components is replaced:</i></p> <p><i>(1) Mast</i></p>	<p>250.53 Grounding Electrode System Installation.</p> <p>(A) Rod, Pipe, and Plate Electrodes. Rod, pipe, and plate electrodes shall be free from nonconductive coatings such as paint or enamel. Rod, pipe, and plate electrodes shall meet the requirements of 250.53(A)(1) through (A)(3).</p> <p>(1) Below Permanent Moisture Level. If practicable, rod, pipe, and plate electrodes shall be embedded below permanent moisture level.</p> <p>(2) Supplemental Electrode Required. A single rod, pipe, or plate electrode shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). The supplemental electrode shall be permitted to be bonded to one of the following:</p> <ul style="list-style-type: none"> (1) Rod, pipe, or plate electrode (2) Grounding electrode conductor (3) Grounded service-entrance conductor (4) Nonflexible grounded service raceway (5) Any grounded service enclosure <p><i>Exception: ((If a single rod, pipe, or plate grounding electrode has a resistance to earth of 25 ohms or</i></p>	<p>WAC amendment</p> <p>Seattle proposes: Editing the exception list to (2) Supplemental Electrode Required to include a technical description of service components and to clarify that the exception only applies if you are changing <i>only</i> (1) of the (3) components.</p> <p>Codifying our allowance for utility pole mounted services to use 1 ground rod.</p> <p>Also wanted to include emergency disconnects.</p> <p>4/23/2024 Committee: Adopt edits as written</p> <p>JLG: I don't see a WAC note here. Are we not adopting them in this case? It looks like they are more restrictive? From WAC:</p>

		<p><i>(2) Meter</i> <i>(3) Panelboard</i></p> <p>(3) Supplemental Electrode. If multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall not be less than ((1.8 m (6 ft))) <u>2.5 m (8 ft)</u> apart.</p> <p>Informational Note: The paralleling efficiency of rods is increased by spacing them twice the length of the longest rod.</p> <p>(4) Rod and Pipe Electrodes. The electrode shall be installed such that at least 2.44 m (8 ft) of length is in contact with the soil. It shall be driven to a depth of not less than 2.44 m (8 ft) except that, where rock bottom is encountered, the electrode shall be driven at an oblique angle not to exceed 45 degrees from the vertical or, where rock bottom is encountered at an angle up to 45 degrees, the electrode shall be permitted to be buried in a trench that is at least 750 mm (30 in.) deep. The upper end of the electrode shall be flush with or below ground level unless the above ground end and the grounding electrode conductor attachment are protected against physical damage as specified in 250.10.</p> <p>(5) Plate Electrode. Plate electrodes shall be installed not less than 750 mm (30 in.) below the surface of the earth.</p> <p>(B) Electrode Spacing. Where more than one of the electrodes of the type specified in 250.52(A)(5) or (A)(7) are used, each electrode of one grounding system (including that used for strike termination devices) shall not be less than 1.83 m (6 ft) from any other electrode of another grounding system. Two or more grounding electrodes that are bonded together shall be considered a single grounding electrode system.</p> <p>(C) Bonding Jumper. The bonding jumper(s) used to connect the grounding electrodes together to form the grounding electrode system shall be installed in accordance with 250.64(A), (B), and (E), shall be sized in accordance with 250.66, and shall be connected in the manner specified in 250.70. Rebar shall not be used as a conductor to interconnect the electrodes of grounding electrode systems.</p> <p>(D) Metal Underground Water Pipe. If used as a grounding electrode, metal underground water pipe shall meet the requirements of 250.53(D)(1) and (D)(2).</p> <p>(1) Continuity. Continuity of the grounding path or the bonding connection to interior piping shall not rely on water meters or filtering devices and similar equipment.</p> <p>Δ (2) Supplemental Electrode Required. A metal underground water pipe shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). If the supplemental electrode is of the rod, pipe, or plate type, it shall comply with 250.53(A). The supplemental electrode shall be bonded to one of the following:</p> <ol style="list-style-type: none"> (1) Grounding electrode conductor (2) Grounded service-entrance conductor 	<p>less, the supplemental electrode shall not be required.)) <i>Only one ground rod is A supplemental electrode shall not be required for a temporary service, a utility pole mounted service, or where only one of the following service components is replaced:</i></p> <ol style="list-style-type: none"> (1) <i>Overhead service mast</i> (2) <i>Meter base enclosure</i> (3) Panelboard <i>Service disconnect and/or emergency disconnect</i> <p>(3) Supplemental Electrode. If multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall not be less than ((1.8 m (6 ft))) <u>2.5 m (8 ft)</u> apart.</p> <p>Informational Note: The paralleling efficiency of rods is increased by spacing them twice the length of the longest rod.</p> <p>(4) Rod and Pipe Electrodes. The electrode shall be installed such that at least 2.44 m (8 ft) of length is in contact with the soil. It shall be driven to a depth of not less than 2.44 m (8 ft) except that, where rock bottom is encountered, the electrode shall be driven at an oblique angle not to exceed 45 degrees from the vertical or, where rock bottom is encountered at an angle up to 45 degrees, the electrode shall be permitted to be buried in a trench that is at least 750 mm (30 in.) deep. The upper end of the electrode shall be flush with or below ground level unless the aboveground end and the grounding electrode conductor attachment are protected against physical damage as specified in 250.10.</p> <p>(5) Plate Electrode. Plate electrodes shall be installed not less than 750 mm (30 in.) below the surface of the earth.</p> <p>Δ (B) Electrode Spacing. If more than one of the electrodes of the type specified in 250.52(A)(5) or (A)(7) are used, each electrode of one grounding system (including that used for strike termination devices) shall not be less than 1.83 m (6 ft) from any other electrode of another grounding system.</p> <p>(C) Bonding Jumper. The bonding jumper(s) used to connect the grounding electrodes together to form the grounding electrode system shall be installed in accordance with 250.64(A), (B), and (E), shall be sized in accordance with 250.66, and shall be connected in the manner specified in 250.70. Rebar shall not be used as a conductor to interconnect the electrodes of grounding electrode systems.</p> <p>(D) Metal Underground Water Pipe. If used as a grounding electrode, metal underground water pipe shall meet the requirements of 250.53(D)(1) and (D)(2).</p> <p>(1) Continuity. Continuity of the grounding path or the bonding connection to interior piping shall not rely on water meters or filtering devices and similar equipment.</p>	<p>053 (A)(2) Resistance of rod, pipe, and plate electrodes.</p> <p>(3) For rod, pipe, and plate electrodes other than those installed in accordance with the exception in subsection (2) of this section, if a ground resistance test is not performed to ensure a resistance to ground of 25 ohms or less, two or more electrodes as specified in NEC 250.52 must be installed a minimum of six feet apart. A temporary construction service is not required to have more than one made electrode.</p> <p>(4) For services only, when multiple buildings or structures are located adjacent, but structurally separate from each other, any installed rod, pipe, or plate electrodes used for those services must be installed so that each building's or structure's electrodes are not less than six feet apart from the adjacent building's or structure's electrodes.</p>
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			<p>(3) Nonflexible grounded service raceway</p> <p>(4) Any grounded service enclosure</p> <p>(5) As provided by 250.32(B)</p> <p><i>Exception 1: The supplemental electrode shall be permitted to be bonded to the interior metal water piping as specified in 250.68(C)(1).</i></p> <p><u>Exception 2: A temporary construction service is not required to have more than one made electrode.</u></p> <p>(E) Supplemental Electrode Bonding Connection Size. Where the supplemental electrode is a rod, pipe, or plate electrode, that portion of the bonding jumper that is the sole connection to the supplemental grounding electrode shall not be required to be larger than 6 AWG copper wire or 4 AWG aluminum wire.</p> <p>(F) Ground Ring. The ground ring shall be installed not less than 750 mm (30 in.) below the surface of the earth.</p>	<p>(2) Supplemental Electrode Required. A metal underground water pipe shall be supplemented by an additional electrode of a type specified in 250.52(A)(2) through (A)(8). If the supplemental electrode is of the rod, pipe, or plate type, it shall comply with 250.53(A). The supplemental electrode shall be bonded to one of the following:</p> <p>(1) Grounding electrode conductor</p> <p>(2) Grounded service-entrance conductor</p> <p>(3) Nonflexible grounded service raceway</p> <p>(4) Any grounded service enclosure</p> <p>(5) As provided by 250.32(B)</p> <p><i>Exception: The supplemental electrode shall be permitted to be bonded to the interior metal water piping as specified in 250.68(C)(1).</i></p> <p>(E) Supplemental Grounding Electrode Bonding Jumper Size. If the supplemental electrode is a rod, pipe, or plate electrode, that portion of the bonding jumper that is the sole connection to the supplemental grounding electrode shall not be required to be larger than 6 AWG copper wire or 4 AWG aluminum or copper-clad aluminum wire.</p> <p>(F) Ground Ring. The ground ring shall be installed not less than 750 mm (30 in.) below the surface of the earth.</p>	
S	250.64	Grounding Electrode Conductor Installation.	<p>250.64 Grounding Electrode Conductor Installation. Grounding electrode conductors at the service, at each building or structure where supplied by a feeder(s) or branch circuit(s), or at a separately derived system shall be installed as specified in 250.64(A) through (F).</p> <p>(A) Aluminum or Copper-Clad Aluminum Conductors. Grounding electrode conductors of bare, covered, or insulated aluminum or copper-clad aluminum shall comply with the following:</p> <p>(1) Bare or covered conductors without an extruded polymeric covering shall not be installed where subject to corrosive conditions or be installed in direct contact with concrete.</p> <p>(2) Terminations made within outdoor enclosures that are listed and identified for the environment shall be permitted within 450 mm (18 in.) of the bottom of the enclosure.</p> <p>(3) Aluminum or copper-clad aluminum conductors external to buildings or equipment enclosures shall not be terminated within 450 mm (18 in.) of the earth.</p> <p>(B) Securing and Protection Against Physical Damage. Where exposed, a grounding electrode conductor or its enclosure shall be</p>	<p>250.64 Grounding Electrode Conductor Installation. Grounding electrode conductors at the service, at each building or structure where supplied by a feeder(s) or branch circuit(s), or at a separately derived system shall be installed as specified in 250.64(A) through (G).</p> <p>(A) Aluminum or Copper-Clad Aluminum Conductors. Grounding electrode conductors of bare, covered, or insulated aluminum or copper-clad aluminum shall comply with the following:</p> <p>(1) Bare or covered conductors without an extruded polymeric covering shall not be installed where subject to corrosive conditions or be installed in direct contact with concrete.</p> <p>(2) Terminations made within outdoor enclosures that are listed and identified for the environment shall be permitted within 450 mm (18 in.) of the bottom of the enclosure.</p> <p>(3) Aluminum or copper-clad aluminum conductors external to buildings or equipment enclosures shall not be terminated within 450 mm (18 in.) of the earth.</p> <p>(B) Securing and Protection Against Physical Damage. If exposed, a grounding electrode conductor or its enclosure shall be securely fastened to the surface on which it is carried. Grounding</p>	<p>WAC amendment</p> <p>Seattle proposes:</p> <p>Removing schedule 80 from physical protection requirement, 3(d) calls out when protection from “severe physical damage” may be required. Edit to (B)(3)</p> <p>Where grounding electrode conductors are exposed to theft, they are considered exposed to physical damage for application of this code.</p> <p>Adding WAC accessibility requirements for non-irreversible tap connections.</p> <p>4/24/2024 Committee agrees to adopt edits as written.</p> <p>JLG 5-13-2024 : Consider yellow highlighted language.</p>

		<p>securely fastened to the surface on which it is carried. Grounding electrode conductors shall be permitted to be installed on or through framing members.</p> <p>(1) Not Exposed to Physical Damage. A 6 AWG or larger copper or aluminum grounding electrode conductor not exposed to physical damage shall be permitted to be run along the surface of the building construction without metal covering or protection.</p> <p>(2) Exposed to Physical Damage. A 6 AWG or larger copper or aluminum grounding electrode conductor exposed to physical damage shall be protected in rigid metal conduit (RMC), intermediate metal conduit (IMC), Schedule 80 rigid polyvinyl chloride conduit (PVC), reinforced thermosetting resin conduit Type XW (RTRCXW), electrical metallic tubing (EMT), or cable armor.</p> <p>(3) Physical Protection. Grounding electrode conductors will be considered to be not exposed to physical damage <u>when the conductor(s) are:</u></p> <p>(a) <u>Buried more than 12 inches deep in the earth outside the building's footprint;</u></p> <p>(b) <u>Encased or covered by 2 inches of concrete or asphalt;</u></p> <p>(c) <u>Located inside the building footprint and protected by the building's structural elements or when inside and determined, by the inspector, not to be subject to physical damage; or</u></p> <p>(d) <u>Enclosed by a metal or nonmetallic raceway or enclosure. The raceway or enclosure must be approved to protect from severe physical damage if it is not protected by appropriate physical barriers from contact with vehicles, lawn mowers, and other equipment that might damage the conductor or enclosure.</u></p> <p><small>Informational Note: WAC 296-46B-250(5) has been incorporated into this section.</small></p> <p>((3)) (4) Smaller Than 6 AWG. Grounding electrode conductors smaller than 6 AWG shall be protected in RMC, IMC, Schedule 80 PVC, RTRC-XW, EMT, or cable armor.</p> <p>((4)) (5) In Contact with the Earth. Grounding electrode conductors and grounding electrode bonding jumpers in contact with the earth shall not be required to comply with 300.5, but shall be buried or otherwise protected if subject to physical damage.</p> <p>(C) Continuous. Except as provided in 250.30(A)(5) and (A)(6), 250.30(B)(1), and 250.68(C), grounding electrode conductor(s) shall be installed in one continuous length without a splice or joint. If necessary, splices or connections shall be made as permitted in (1)</p>	<p>electrode conductors shall be permitted to be installed on or through framing members.</p> <p>(1) Not Exposed to Physical Damage. A 6 AWG or larger copper, copper-clad aluminum, or aluminum grounding electrode conductor not exposed to physical damage shall be permitted to be run along the surface of the building construction without metal covering or protection.</p> <p>(2) Exposed to Physical Damage. A 6 AWG or larger copper, copper-clad aluminum, or aluminum grounding electrode conductor exposed to physical damage shall be protected. ((in rigid metal conduit (RMC), intermediate metal conduit (IMC), ((Schedule 80)) rigid polyvinyl chloride conduit (PVC), reinforced thermosetting resin conduit Type XW (RTRC-XW), electrical metallic tubing (EMT), or cable armor. Grounding electrode conductors will be considered to be not exposed to <u>protected from physical damage when the conductor(s) are:</u></p> <p>(a) <u>Buried more than 12 inches deep in the earth outside the building's footprint;</u></p> <p>(b) <u>Encased or covered by 2 inches of concrete or asphalt;</u></p> <p>(c) <u>Located inside the building footprint and protected by the building's structural elements or when inside and determined, by the inspector, not to be subject to physical damage; or</u></p> <p>(d) <u>Enclosed by a metal or nonmetallic raceway or enclosure. The raceway or enclosure must be approved to protect from severe physical damage if it is not protected by appropriate physical barriers from contact with vehicles, lawn mowers, and other equipment that might damage the conductor or enclosure.</u></p> <p><small>Informational Note: WAC 296-46B-250 064(5) has been incorporated into this section.</small></p> <p>((3)) Smaller Than 6 AWG. Grounding electrode conductors smaller than 6 AWG shall be protected in RMC, IMC, Schedule 80 PVC, RTRC-XW, EMT, or cable armor.</p> <p>((4)) In Contact with the Earth. Grounding electrode conductors and grounding electrode bonding jumpers in contact with the earth shall not be required to comply with 300.5 or 305.15, but shall be buried or otherwise protected if subject to physical damage.</p> <p><small>Informational Note: WAC 296-46B-250 064(5) has been incorporated into this section.</small></p>	<p>(2) Exposed to Physical Damage. A 6 AWG or larger copper, copper-clad aluminum, or aluminum grounding electrode conductor exposed to physical damage shall be protected. ((in rigid metal conduit (RMC), intermediate metal conduit (IMC), ((Schedule 80)) rigid polyvinyl chloride conduit (PVC), reinforced thermosetting resin conduit Type XW (RTRC-XW), electrical metallic tubing (EMT), or cable armor.)) <u>Grounding electrode conductors exposure</u> exposed to theft shall be considered <u>as exposed to physical damage for the application of this code.</u> Grounding electrode conductors will be considered to be not exposed to <u>protected from physical damage when the conductor(s) are:</u></p>
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		<p>through (4):</p> <ul style="list-style-type: none"> (1) Splicing of the wire-type grounding electrode conductor shall be permitted only by irreversible compression-type connectors listed as grounding and bonding equipment or by the exothermic welding process. (2) Sections of busbars shall be permitted to be connected together to form a grounding electrode conductor. (3) Bolted, riveted, or welded connections of structural metal frames of buildings or structures. (4) Threaded, welded, brazed, soldered or bolted-flange connections of metal water piping. <p>(D) Building or Structure with Multiple Disconnecting Means in Separate Enclosures. If a building or structure is supplied by a service or feeder with two or more disconnecting means in separate enclosures, the grounding electrode connections shall be made in accordance with 250.64(D)(1), 250.64(D)(2), or 250.64(D)(3).</p> <p>(1) Common Grounding Electrode Conductor and Taps. A common grounding electrode conductor and grounding electrode conductor taps shall be installed. The common grounding electrode conductor shall be sized in accordance with 250.66, based on the sum of the circular mil area of the largest ungrounded conductor(s) of each set of conductors that supplies the disconnecting means. If the service-entrance conductors connect directly to the overhead service conductors, service drop, underground service conductors, or service lateral, the common grounding electrode conductor shall be sized in accordance with Table 250.66, note 1. A grounding electrode conductor tap shall extend to the inside of each disconnecting means enclosure. The grounding electrode conductor taps shall be sized in accordance with 250.66 for the largest service-entrance or feeder conductor serving the individual enclosure. The tap conductors shall be connected to the common grounding electrode conductor by one of the following methods in such a manner that the common grounding electrode conductor remains without a splice or joint:</p> <ul style="list-style-type: none"> (1) Exothermic welding. (2) Connectors listed as grounding and bonding equipment. (3) Connections to an aluminum or copper busbar not less than 6 mm thick × 50 mm wide (1/4 in. thick × 2 in. wide) and of sufficient length to accommodate the number of terminations necessary for the installation. The busbar shall be securely fastened and shall be installed in an accessible location. Connections shall be made by a listed connector or by the exothermic welding process. If aluminum busbars are used, the installation shall comply with 250.64(A). 	<p>(C) Continuous. Except as provided in 250.30(A)(5) and (A)(6), 250.30(B)(1), and 250.68(C), grounding electrode conductor(s) shall be installed in one continuous length without a splice or joint. If necessary, splices or connections shall be made as permitted in the following:</p> <ul style="list-style-type: none"> (1) Splicing of the wire-type grounding electrode conductor shall be permitted only by irreversible compression-type connectors listed as grounding and bonding equipment or by the exothermic welding process. (2) Sections of busbars shall be permitted to be connected together to form a grounding electrode conductor. (3) Bolted, riveted, or welded connections of structural metal frames of buildings or structures. (4) Threaded, welded, brazed, soldered or bolted-flange connections of metal water piping. <p>(D) Building or Structure with Multiple Disconnecting Means in Separate Enclosures. If a building or structure is supplied by a service or feeder with two or more disconnecting means in separate enclosures, the grounding electrode connections shall be made in accordance with 250.64(D)(1), (D)(2), or (D)(3).</p> <p>(1) Common Grounding Electrode Conductor and Taps. A common grounding electrode conductor and grounding electrode conductor taps shall be installed. The common grounding electrode conductor shall be sized in accordance with 250.66, based on the sum of the circular mil area of the largest ungrounded conductor(s) of each set of conductors that supplies the disconnecting means. If the service-entrance conductors connect directly to the overhead service conductors, service drop, underground service conductors, or service lateral, the common grounding electrode conductor shall be sized in accordance with Table 250.66, note 1.</p> <p>A grounding electrode conductor tap shall extend to the inside of each disconnecting means enclosure. The grounding electrode conductor taps shall be sized in accordance with 250.66 for the largest service-entrance or feeder conductor serving the individual enclosure. The tap conductors shall be connected to the common grounding electrode conductor by one of the following methods in such a manner that the common grounding electrode conductor remains without a splice or joint:</p> <ul style="list-style-type: none"> (1) Exothermic welding. (2) Connectors listed as grounding and bonding equipment. (3) Connections to an aluminum or copper busbar not less than 6 mm thick × 50 mm wide (1/4 in. thick × 2 in. wide) and of a length to accommodate the number of terminations necessary for the 	
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(2) Individual Grounding Electrode Conductors. A grounding electrode conductor shall be connected between the grounding electrode system and one or more of the following, as applicable:

- (1) Grounded conductor in each service equipment disconnecting means enclosure
- (2) Equipment grounding conductor installed with the feeder
- (3) Supply-side bonding jumper

Each grounding electrode conductor shall be sized in accordance with 250.66 based on the service-entrance or feeder conductor(s) supplying the individual disconnecting means.

(3) Common Location. A grounding electrode conductor shall be connected in a wireway or other accessible enclosure on the supply side of the disconnecting means to one or more of the following, as applicable:

- (1) Grounded service conductor(s)
- (2) Equipment grounding conductor installed with the feeder
- (3) Supply-side bonding jumper

The connection shall be made with exothermic welding or a connector listed as grounding and bonding equipment. The grounding electrode conductor shall be sized in accordance with 250.66 based on the service entrance or feeder conductor(s) at the common location where the connection is made.

(E) Raceways and Enclosures for Grounding Electrode Conductors.

(1) General. Ferrous metal raceways, enclosures, and cable armor for grounding electrode conductors shall be electrically continuous from the point of attachment to cabinets or equipment to the grounding electrode and shall be securely fastened to the ground clamp or fitting. Ferrous metal raceways, enclosures, and cable armor shall be bonded at each end of the raceway or enclosure to the grounding electrode or grounding electrode conductor to create an electrically parallel path. Nonferrous metal raceways, enclosures, and cable armor shall not be required to be electrically continuous.

(2) Methods. Bonding shall be in compliance with 250.92(B) and ensured by one of the methods in 250.92(B)(2) through (B)(4).

(3) Size. The bonding jumper for a grounding electrode conductor(s), raceway(s), enclosure(s), or cable armor shall

installation. The busbar shall be securely fastened and shall be installed in an accessible location. Connections shall be made by a listed connector or by the exothermic welding process. If aluminum busbars are used, the installation shall comply with 250.64(A).

The termination point of a grounding electrode conductor tap to the grounding electrode conductor must be accessible unless the connection is made using an exothermic or irreversible compression connection.

Informational Note: The requirements of WAC 296-46B-250.064(6) have been incorporated herein.

(2) Individual Grounding Electrode Conductors. A grounding electrode conductor shall be connected between the grounding electrode system and one or more of the following, as applicable:

- (1) Grounded conductor in each service equipment disconnecting means enclosure
- (2) Equipment grounding conductor installed with the feeder(s) or branch circuit(s) for other than services
- (3) Supply-side bonding jumper

Each grounding electrode conductor shall be sized in accordance with 250.66 based on the service-entrance or feeder conductor(s) supplying the individual disconnecting means.

(3) Common Location. A grounding electrode conductor shall be connected in a wireway or other accessible enclosure on the supply side of the disconnecting means to one or more of the following, as applicable:

- (1) Grounded service conductor(s)
- (2) Equipment grounding conductor installed with the feeder
- (3) Supply-side bonding jumper

The connection shall be made with exothermic welding or a connector listed as grounding and bonding equipment. The grounding electrode conductor shall be sized in accordance with 250.66 based on the service-entrance or feeder conductor(s) at the common location where the connection is made.

(E) Raceways, Cable Armor, and Enclosures for Grounding Electrode Conductors.

(1) General. Ferrous metal raceways, enclosures, and cable armor for grounding electrode conductors shall be electrically continuous from the point of attachment to cabinets or equipment to the grounding electrode and shall be securely fastened to the ground clamp or fitting. Ferrous

			<p>be the same size as, or larger than, the largest enclosed grounding electrode conductor.</p> <p>(4) Wiring Methods. If a raceway is used as protection for a grounding electrode conductor, the installation shall comply with the requirements of the appropriate raceway article.</p> <p>(F) Installation to Electrode(s). Grounding electrode conductor(s) and bonding jumpers interconnecting grounding electrodes shall be installed in accordance with (1), (2), or (3). The grounding electrode conductor shall be sized for the largest grounding electrode conductor required among all the electrodes connected to it.</p> <p>(1) The grounding electrode conductor shall be permitted to be run to any convenient grounding electrode available in the grounding electrode system where the other electrode(s), if any, is connected by bonding jumpers that are installed in accordance with 250.53(C).</p> <p>(2) Grounding electrode conductor(s) shall be permitted to be run to one or more grounding electrode(s) individually.</p> <p>(3) Bonding jumper(s) from grounding electrode(s) shall be permitted to be connected to an aluminum or copper busbar not less than 6 mm thick × 50 mm wide (1/4 in. thick × 2 in wide.) and of sufficient length to accommodate the number of terminations necessary for the installation. The busbar shall be securely fastened and shall be installed in an accessible location. Connections shall be made by a listed connector or by the exothermic welding process. The grounding electrode conductor shall be permitted to be run to the busbar. Where aluminum busbars are used, the installation shall comply with 250.64(A).</p>	<p>metal raceways, enclosures, and cable armor shall be bonded at each end of the raceway or enclosure to the grounding electrode or grounding electrode conductor to create an electrically parallel path. Nonferrous metal raceways, enclosures, and cable armor shall not be required to be electrically continuous.</p> <p>(2) Methods. Bonding shall be in compliance with 250.92(B) and ensured by one of the methods in 250.92(B)(2) through (B)(4).</p> <p>(3) Size. The bonding jumper for a grounding electrode conductor(s), raceway(s), enclosure(s), or cable armor shall be the same size as, or larger than, the largest enclosed grounding electrode conductor.</p> <p>(4) Wiring Methods. If a raceway is used as protection for a grounding electrode conductor, the installation shall comply with the requirements of the applicable raceway article.</p> <p>(F) Installation to Electrode(s). Grounding electrode conductor(s) and bonding jumpers interconnecting grounding electrodes shall be installed in accordance with one of the following. The grounding electrode conductor shall be sized for the largest grounding electrode conductor required among all the electrodes connected to it.</p> <p>(1) The grounding electrode conductor shall be permitted to be run to any convenient grounding electrode available in the grounding electrode system where the other electrode(s), if any, is connected by bonding jumpers that are installed in accordance with 250.53(C).</p> <p>(2) Grounding electrode conductor(s) shall be permitted to be run to one or more grounding electrode(s) individually.</p> <p>(3) Bonding jumper(s) from grounding electrode(s) shall be permitted to be connected to an aluminum or copper busbar not less than 6 mm thick × 50 mm wide (1/4 in. thick × 2 in wide.) and of sufficient length to accommodate the number of terminations necessary for the installation. The busbar shall be securely fastened and shall be installed in an accessible location. Connections shall be made by a listed connector or by the exothermic welding process. The grounding electrode conductor shall be permitted to be run to the busbar. Where aluminum busbars are used, the installation shall comply with 250.64(A).</p> <p>(G) Enclosures with Ventilation Openings. Grounding electrode conductors shall not be installed through a ventilation opening of an enclosure.</p>	
W	250.90	General	<p>250.90 General. Bonding shall be provided where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed.</p> <p><i>Exception No. 1: Metallic stubs or valves used in nonmetallic plumbing systems are not required to be bonded to the electrical system unless required by an electrical equipment manufacturer's instructions.</i></p>	<p>250.90 General. Bonding shall be provided if necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed.</p> <p><i>Exception No. 1: Metallic stubs or valves used in nonmetallic plumbing systems are not required to be bonded to the electrical</i></p>	<p>WAC amendment (exceptions 1 and 2)</p> <p>Seattle proposes: Carry over [W] amendments into 2023 SEC.</p>

			<p><u>Exception No. 2: Hot and cold water plumbing lines are not required to be bonded together if, at the time of inspection, the inspector can determine the lines are mechanically and electrically joined by one or more metallic mixing valves.</u></p> <p>Informational Note: WAC 296-46B-250.090(7) and (8), requirements regarding bonding in plumbing systems or lines, are incorporated herein as Exceptions.</p>	<p><u>system unless required by an electrical equipment manufacturer's instructions.</u></p> <p><u>Exception No. 2: Hot and cold-water plumbing lines are not required to be bonded together if, at the time of inspection, the inspector can determine the lines are mechanically and electrically joined by one or more metallic mixing valves.</u></p> <p>Informational Note: WAC 296-46B-250.090(7) and (8), requirements regarding bonding in plumbing systems or lines, are incorporated herein as Exceptions.</p>	<p>Added informational note in 250.104 referencing 250.90.</p> <p>Decided against: Moving exceptions to 250.104</p>
S			<p>250.92 Services.</p> <p>(A) Bonding of Equipment for Services. The normally non-current-carrying metal parts of equipment indicated in 250.92(A)(1) and (A)(2) shall be bonded together.</p> <p>(1) All raceways, <u>utility raceways that are metallically connected to other service equipment</u>, cable trays, cablebus framework, auxiliary gutters, or service cable armor or sheaths that enclose, contain, or support service conductors, except as permitted in 250.80</p> <p>(2) All enclosures containing service conductors, including meter fittings, boxes, or the like, interposed in the service raceway or armor</p> <p>(B) Method of Bonding at the Service. Bonding jumpers meeting the requirements of this article shall be used around impaired connections, such as reducing washers or oversized, concentric, or eccentric knockouts. Standard locknuts or bushings shall not be the only means for the bonding required by this section but shall be permitted to be installed to make a mechanical connection of the raceway(s).</p> <p>Electrical continuity at service equipment, service raceways, and service conductor enclosures shall be ensured by one of the following methods:</p> <p>(1) Bonding equipment to the grounded service conductor in a manner provided in 250.8.</p> <p><u>Exception: Connection to the grounded service conductor shall not be used to bond service terminal boxes and current transformer enclosures.</u></p> <p>Informational Note: This requirement is found in Chapter 6 of Requirements for Electric Service Connection as published by Seattle City Light.</p> <p>(2) Connections using threaded couplings or listed threaded hubs on enclosures if made up wrench tight</p> <p>(3) Threadless couplings and connectors if made up tight for metal raceways and metal-clad cables</p> <p>(4) Other listed devices, such as bonding-type locknuts, bushings, or bushings with bonding jumpers</p>	<p>250.92 Services.</p> <p>(A) Bonding of Equipment for Services. The normally non-current-carrying metal parts of equipment indicated in the following shall be bonded together:</p> <p>(1) All raceways, <u>including utility raceways that are electrically continuous to other service equipment</u>; cable trays; cablebus framework; auxiliary gutters; or service cable armor or sheath; that enclose, contain, or support service conductors, except as permitted in 250.80</p> <p>(2) All enclosures containing service conductors, including meter fittings, boxes, or the like, interposed in the service raceway or armor</p> <p>(B) Method of Bonding at the Service. Bonding jumpers meeting the requirements of this article shall be used around impaired connections, such as reducing washers or oversized, concentric, or eccentric knockouts. Standard locknuts or bushings shall not be the only means for the bonding required by this section but shall be permitted to be installed to make a mechanical connection of the raceway(s).</p> <p>Electrical continuity at service equipment, service raceways, and service conductor enclosures shall be ensured by one or more of the following methods:</p> <p>(1) Bonding equipment to the grounded service conductor by an applicable method in 250.8(A). <u>Connection to the grounded service conductor shall not be used to bond current transformer enclosures under jurisdiction of the utility.</u></p> <p><u>Exception: Connection to the grounded service conductor shall not be used to bond service terminal boxes and current transformer enclosures.</u></p> <p>Informational Note: This The requirement is found in of Requirements for Electric Service Connection, chapter 6, as published by Seattle City Light, is incorporated herein.</p> <p>(2) Connections made up wrench tight using threaded couplings, threaded entries, or listed threaded hubs on enclosures</p> <p>(3) Threadless couplings and connectors if made up tight for metal raceways and metal-clad cables</p>	<p>No WAC amendment</p> <p>Seattle proposes: Editing current Seattle amendments to read better.</p> <p>Rewording SCL's requirement so it is not a required exception, which is confusing as currently written.</p> <p>4/24/2024 Committee agrees with edits as written</p>

				(4) Other listed devices, such as bonding-type locknuts, bushings, or bushings with bonding jumpers	
S, W	250.104	Bonding of Piping Systems and Exposed Structural Metal.	<p>250.104 Bonding of Piping Systems and Exposed Structural Metal.</p> <p>Δ (A) Metal Water Piping. The metal water piping system shall be bonded as required in 250.104(A)(1), (A)(2), or (A)(3).</p> <p>(1) General. Metal water piping system(s) installed in or attached to a building or structure shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Service equipment enclosure (2) Grounded conductor at the service (3) Grounding electrode conductor, if of sufficient size (4) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size <p>The bonding jumper(s) shall be installed in accordance with 250.64(A), 250.64(B), and 250.64(E). The points of attachment of the bonding jumper(s) shall be accessible. The bonding jumper(s) shall be sized in accordance with Table 250.102(C)(1) except that it shall not be required to be larger than 3/0 copper or 250 kcmil aluminum or copper-clad aluminum and except as permitted in 250.104(A)(2) and 250.104(A)(3).</p> <p>(2) Buildings of Multiple Occupancy. In buildings of multiple occupancy where the metal water piping system(s) installed in or attached to a building or structure for the individual occupancies is metallicity isolated from all other occupancies by use of nonmetallic water piping, the metal water piping system(s) for each occupancy shall be permitted to be bonded to the equipment grounding terminal of the switchgear, switchboard, or panelboard enclosure (other than service equipment) supplying that occupancy. The bonding jumper shall be sized in accordance with 250.102(D).</p> <p>Δ (3) Buildings or Structures Supplied by a Feeder(s) or Branch Circuit(s). The metal water piping system(s) installed in or attached to a building or structure shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Building or structure disconnecting means enclosure where located at the building or structure (2) Equipment grounding conductor run with the supply conductors (3) One or more grounding electrodes used (4) The bonding jumper(s) shall be sized in accordance with 250.102(D). The bonding jumper shall not be required to be larger than the largest ungrounded feeder 	<p>250.104 Bonding of Piping Systems and Exposed Structural Metal.</p> <p>(A) Metal Water Piping. The metal water piping system shall be bonded as required in 250.104(A)(1), (A)(2), or (A)(3).</p> <p>(1) General. Metal water piping system(s) installed in or attached to a building or structure shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Service equipment enclosure (2) Grounded conductor at the service (3) Grounding electrode conductor, if of sufficient size (4) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size <p>The bonding jumper(s) shall be installed in accordance with 250.64(A), (B), and (E). The points of attachment of the bonding jumper(s) shall be accessible. The bonding jumper(s) shall be sized in accordance with Table 250.102(C)(1) except that it shall not be required to be larger than 3/0 copper or 250 kcmil aluminum or copper-clad aluminum and except as permitted in 250.104(A)(2) and (A)(3).</p> <p>(2) Buildings of Multiple Occupancy. In buildings of multiple occupancy where the metal water piping system(s) installed in or attached to a building or structure for the individual occupancies is metallicity isolated from all other occupancies by use of nonmetallic water piping, the metal water piping system(s) for each occupancy shall be permitted to be bonded to the equipment grounding terminal of the switchgear, switchboard, or panelboard enclosure (other than service equipment) supplying that occupancy. The bonding jumper shall be sized in accordance with 250.102(D).</p> <p>(3) Buildings or Structures Supplied by a Feeder(s) or Branch Circuit(s). The metal water piping system(s) installed in or attached to a building or structure shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Building or structure disconnecting means enclosure where located at the building or structure (2) Equipment grounding conductor run with the supply conductors (3) One or more grounding electrodes used 	<p>New WAC amendment</p> <p>Seattle proposes:</p> <p>Edits for better organization.</p> <p>All of WAC 104(B) Bonding has been added in B below. No change in technical content for flexible natural gas piping but heavily reorganized and edited for clarity.</p> <p>Added informational note to acknowledge addition of WAC language.</p>

		<p>or branch-circuit conductor supplying the building or structure.</p> <p>Δ (B) Other Metal Piping. If installed in or attached to a building or structure, a metal piping system(s), including gas piping, that is likely to become energized shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Equipment grounding conductor for the circuit that is likely to energize the piping system (2) Service equipment enclosure (3) Grounded conductor at the service (4) Grounding electrode conductor, if of sufficient size (5) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size <p>The bonding conductor(s) or jumper(s) shall be sized in accordance with Table 250.122, and equipment grounding conductors shall be sized in accordance with Table 250.122 using the rating of the circuit that is likely to energize the piping system(s). The points of attachment of the bonding jumper(s) shall be accessible.</p> <p><i>Exception: Flexible gas piping shall be bonded to the grounding electrode system at any accessible location at the point where the flexible piping receives its supply. The bonding conductor connection shall not terminate on the flexible gas piping. The minimum size bonding conductor shall be No. 6 AWG copper or as required by the manufacturer's installation instructions.</i></p> <p>Informational Note No. 1: Bonding all piping and metal air ducts within the premises will provide additional safety.</p> <p>Informational Note No. 2: Additional information for gas piping systems can be found in NFPA 54-2018, National Fuel Gas Code, and NFPA 780-2017, Standard for the Installation of Lightning Protection Systems.</p> <p>(C) Structural Metal. Exposed structural metal that is interconnected to form a metal building frame, is not intentionally grounded or bonded, and is likely to become energized shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Service equipment enclosure (2) Grounded conductor at the service (3) Disconnecting means for buildings or structures supplied by a feeder or branch circuit (4) Grounding electrode conductor, if of sufficient size (5) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size <p>The bonding conductor(s) or jumper(s) shall be sized in accordance with Table 250.102(C)(1), except that it shall not be required to be larger than 3/0 copper or 250 kcmil aluminum or copper-clad aluminum, and</p>	<p>The bonding jumper(s) shall be sized in accordance with 250.102(D). The bonding jumper shall not be required to be larger than the largest ungrounded feeder or branch-circuit conductor supplying the building or structure.</p> <p>(B) Flexible Metal Natural Gas Piping. <u>Bonding of flexible metal natural gas piping installations, installed new or extended from an existing rigid metal piping system, shall comply with either 250.104(B)(1) or (2):</u></p> <p><u>(1) Installed per manufacturer's instructions. A copy of the manufacturer's instructions shall be provided to the inspector at the time of inspection.</u></p> <p><u>(2) Bonded with a minimum 6 AWG copper conductor and terminate at an accessible location on rigid iron piping downstream of the gas utility meter. The bonding conductor shall connect the gas piping system to the service equipment enclosure, grounding electrode or grounding electrode conductor, or grounded conductor termination bussing or bar in the service equipment enclosure.</u></p> <p><u>Informational note: The requirements of WAC 296-46B-250.104(B)(9) are incorporated herein with edits.</u></p> <p>(B) (C) Other Metal Piping. If installed in or attached to a building or structure, a metal piping system(s), including gas piping, that is likely to become energized shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Equipment grounding conductor for the circuit that is likely to energize the piping system (2) Service equipment enclosure (3) Grounded conductor at the service (4) Grounding electrode conductor, if of sufficient size (5) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size <p>The bonding conductor(s) or jumper(s) shall be sized in accordance with Table 250.122, and equipment grounding conductors shall be sized in accordance with Table 250.122 using the rating of the circuit that is likely to energize the piping system(s). The points of attachment of the bonding jumper(s) shall be accessible.</p> <p>Informational Note No. 1: Bonding all piping and metal air ducts within the premises will provide additional safety.</p> <p>Informational Note No. 2: See NFPA 54, National Fuel Gas Code, and NFPA 780, Standard for the Installation of Lightning Protection Systems, for information on gas piping systems.</p> <p>((B)) (D) Structural Metal. Exposed structural metal that is interconnected to form a metal building frame, is not intentionally</p>	
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		<p>installed in accordance with 250.64(A), 250.64(B), and 250.64(E). The points of attachment of the bonding jumper(s) shall be accessible unless installed in compliance with 250.68(A) Exception No. 2.</p> <p>(D) Separately Derived Systems. Metal water piping systems and structural metal that is interconnected to form a building frame shall be bonded to separately derived systems in accordance with 250.104(D)(1) through 250.104(D)(3).</p> <p>(1) Metal Water Piping System(s). The grounded conductor of each separately derived system shall be bonded to the nearest available point of the metal water piping system(s) in the area served by each separately derived system. This connection shall be made at the same point on the separately derived system where the grounding electrode conductor is connected. Each bonding jumper shall be sized in accordance with Table 250.102(C)(1) based on the largest ungrounded conductor of the separately derived system except that it shall not be required to be larger than 3/0 copper or 250 kcmil aluminum or copper-clad aluminum.</p> <p><i>Exception No. 1: A separate bonding jumper to the metal water piping system shall not be required if the metal water piping system is used as the grounding electrode for the separately derived system and the water piping system is in the area served.</i></p> <p><i>Exception No. 2: A separate water piping bonding jumper shall not be required if the metal frame of a building or structure is used as the grounding electrode for a separately derived system and is bonded to the metal water piping in the area served by the separately derived system.</i></p> <p>(2) Structural Metal. If exposed structural metal that is interconnected to form the building frame exists in the area served by the separately derived system, it shall be bonded to the grounded conductor of each separately derived system. This connection shall be made at the same point on the separately derived system where the grounding electrode conductor is connected. Each bonding jumper shall be sized in accordance with Table 250.102(C)(1) based on the largest ungrounded conductor of the separately derived system except that it shall not be required to be larger than 3/0 copper or 250 kcmil aluminum or copper-clad aluminum.</p> <p><i>Exception No. 1: A separate bonding jumper to the building structural metal shall not be required if the metal frame of a building or structure is used as the grounding electrode for the separately derived system.</i></p> <p><i>Exception No. 2: A separate bonding jumper to the building structural metal shall not be required if the water piping of a building or structure is used as the grounding electrode for a separately derived system and is bonded to the building structural metal in the area served by the separately derived system.</i></p> <p>(3) Common Grounding Electrode Conductor. If a common grounding electrode conductor is installed for multiple separately derived systems as permitted by 250.30(A)(6), and exposed structural metal that is interconnected to form the building frame or interior metal piping exists in the area served by the separately derived system, the metal piping and the structural metal member</p>	<p>grounded or bonded, and is likely to become energized shall be bonded to any of the following:</p> <ol style="list-style-type: none"> (1) Service equipment enclosure (2) Grounded conductor at the service (3) Disconnecting means for buildings or structures supplied by a feeder or branch circuit (4) Grounding electrode conductor, if not smaller than a conductor sized in accordance with Table 250.102(C)(1) (5) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is not smaller than a conductor sized in accordance with Table 250.102(C)(1) <p>The bonding conductor(s) or jumper(s) shall be sized in accordance with Table 250.102(C)(1), except that it shall not be required to be larger than 3/0 AWG copper or 250 kcmil aluminum or copper-clad aluminum, and installed in accordance with 250.64(A), (B), and (E). The points of attachment of the bonding jumper(s) shall be accessible unless installed in compliance with 250.68(A), Exception No. 2.</p> <p>(E) (E) Separately Derived Systems. Metal water piping systems and structural metal that is interconnected to form a building frame shall be bonded to separately derived systems in accordance with 250.104(D)(1) through (D)(3).</p> <p>(1) Metal Water Piping System(s). The grounded conductor of each separately derived system shall be bonded to the nearest accessible point of the metal water piping system(s) in the area served by each separately derived system. This connection shall be made at the same point on the separately derived system where the grounding electrode conductor is connected. Each bonding jumper shall be sized in accordance with Table 250.102(C)(1) based on the largest ungrounded conductor of the separately derived system except that it shall not be required to be larger than 3/0 AWG copper or 250 kcmil aluminum or copper-clad aluminum.</p> <p><i>Exception No. 1: A separate bonding jumper to the metal water piping system shall not be required if the metal water piping system is used as the grounding electrode or grounding electrode conductor for the separately derived system and the connection to the water piping system is in the area served by the separately derived system.</i></p> <p><i>Exception No. 2: A separate bonding jumper to the metal water piping system shall not be required if the metal in-ground support structure is used as a grounding electrode or the metal frame of a building or structure is used as the grounding electrode conductor for a separately derived system and is bonded to the metal water piping system in the area served by the separately derived system.</i></p>	
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			<p>shall be bonded to the common grounding electrode conductor in the area served by the separately derived system.</p> <p><i>Exception: A separate bonding jumper from each derived system to metal water piping and to structural metal members shall not be required if the metal water piping and the structural metal members in the area served by the separately derived system are bonded to the common grounding electrode conductor.</i></p> <p>(E) Water system requirements. It is unlawful to connect to or use any water main or water pipe belonging to Seattle Public Utilities distribution and transmission systems for electrical grounding purposes.</p>	<p>(2) Structural Metal. If exposed structural metal that is interconnected to form the building frame exists in the area served by the separately derived system, it shall be bonded to the grounded conductor of each separately derived system. This connection shall be made at the same point on the separately derived system where the grounding electrode conductor is connected. Each bonding jumper shall be sized in accordance with Table 250.102(C)(1) based on the largest ungrounded conductor of the separately derived system except that it shall not be required to be larger than 3/0 AWG copper or 250 kcmil aluminum or copper-clad aluminum.</p> <p><i>Exception No. 1: A separate bonding jumper to the building structural metal shall not be required if the metal in-ground support structure is used as a grounding electrode or the metal frame of a building or structure is used as the grounding electrode conductor for the separately derived system.</i></p> <p><i>Exception No. 2: A separate bonding jumper to the building structural metal shall not be required if the water piping system of a building or structure is used as the grounding electrode or grounding electrode conductor for a separately derived system and is bonded to the building structural metal in the area served by the separately derived system.</i></p> <p>(3) Common Grounding Electrode Conductor. If a common grounding electrode conductor is installed for multiple separately derived systems as permitted by 250.30(A)(6), and exposed structural metal that is interconnected to form the building frame or interior metal water piping exists in the area served by the separately derived system, the metal water piping and the structural metal member shall be bonded to the common grounding electrode conductor in the area served by the separately derived system.</p> <p><i>Exception: A separate bonding jumper from each derived system to metal water piping and to structural metal members shall not be required if the metal water piping and the structural metal members in the area served by the separately derived system are bonded to the common grounding electrode conductor.</i></p> <p>(E) (F) Water system requirements. It is unlawful to connect to or use any water main or water pipe belonging to Seattle Public Utilities distribution and transmission systems for electrical grounding purposes.</p>	
S			<p>Δ 250.118 Types of Equipment Grounding Conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:</p> <p>(1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a busbar of any shape.</p> <p>(2) Rigid metal conduit.</p>	<p>Δ 250.118 Types of Equipment Grounding Conductors.</p> <p>N (A) Permitted. Each equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:</p> <p>(1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded;</p>	<p>No WAC amendment</p> <p>Seattle Proposes: Carry over 2020 SEC amendment and overlay on 2023 NEC language.</p> <p>4/24/2024 Committee: Approve</p>

			<p>(3) Intermediate metal conduit.</p> <p>(4) Electrical metallic tubing <u>except in wet locations</u>.</p> <p>(5) Listed flexible metal conduit meeting all the following conditions:</p> <ul style="list-style-type: none"> a. The conduit is terminated in listed fittings. b. The circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less. c. The size of the conduit does not exceed metric designator 35 (trade size 1 1/4). d. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft). e. If used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, a wiretype equipment grounding conductor shall be installed. <p>(6) Listed liquidtight flexible metal conduit meeting all the following conditions:</p> <ul style="list-style-type: none"> a. The conduit is terminated in listed fittings. b. For metric designators 12 through 16 (trade sizes 3/8 through 1/2), the circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less. c. For metric designators 21 through 35 (trade sizes 3/4 through 1 1/4), the circuit conductors contained in the conduit are protected by overcurrent devices rated not more than 60 amperes and there is no flexible metal conduit, flexible metallic tubing, or liquidtight flexible metal conduit in metric designators 12 through 16 (trade sizes 3/8 through 1/2) in the effective ground-fault current path. d. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft). e. If used to connect equipment where flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, a wiretype equipment grounding conductor shall be installed. 	<p>insulated, covered, or bare; and in the form of a wire or a busbar of any shape.</p> <p>(2) Rigid metal conduit.</p> <p>(3) Intermediate metal conduit.</p> <p>(4) Electrical metallic tubing <u>except in wet locations</u>.</p> <p>(5) Listed flexible metal conduit meeting all the following conditions:</p> <ul style="list-style-type: none"> a. The conduit is terminated in listed fittings. b. The circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less. c. The size of the conduit does not exceed metric designator 35 (trade size 1 1/4). d. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft). e. If flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, a wire-type equipment grounding conductor or a bonding jumper in accordance with 250.102(E)(2) shall be installed. f. If flexible metal conduit is constructed of stainless steel, a wire-type equipment grounding conductor or bonding jumper in accordance with 250.102(E)(2) shall be installed. <p>(6) Listed liquidtight flexible metal conduit meeting all the following conditions:</p> <ul style="list-style-type: none"> a. The conduit is terminated in listed fittings. b. For metric designators 12 through 16 (trade sizes 3/8 through 1/2), the circuit conductors contained in the conduit are protected by overcurrent devices rated at 20 amperes or less. c. For metric designators 21 through 35 (trade sizes 3/4 through 1 1/4), the circuit conductors contained in the conduit are protected by overcurrent devices rated not more than 60 amperes and there is no flexible metal conduit, flexible metallic tubing, or liquidtight flexible metal conduit in metric designators 12 through 16 (trade sizes 3/8 through 1/2) in the effective ground-fault current path. d. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible 	
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		<p>(7) Flexible metallic tubing where the tubing is terminated in listed fittings and meeting the following conditions:</p> <ul style="list-style-type: none"> a. The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less. b. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft). <p>(8) Armor of Type AC cable as provided in 320.108.</p> <p>(9) The copper sheath of mineral-insulated, metal-sheathed cable Type MI.</p> <p>(10) Type MC cable that provides an effective ground-fault current path in accordance with one or more of the following:</p> <ul style="list-style-type: none"> a. It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1). b. The combined metallic sheath and uninsulated equipment grounding/bonding conductor of interlocked metal tape-type MC cable that is listed and identified as an equipment grounding conductor c. The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor <p>(11) Cable trays as permitted in 392.10 and 392.60.</p> <p>(12) Cablebus framework as permitted in 370.60(1).</p> <p>(13) Other listed electrically continuous metal raceways and listed auxiliary gutters.</p> <p>(14) Surface metal raceways listed for grounding.</p> <p>Informational Note: For a definition of effective ground-fault current path, see Article 100</p>	<p>metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft).</p> <ul style="list-style-type: none"> e. If flexibility is necessary to minimize the transmission of vibration from equipment or to provide flexibility for equipment that requires movement after installation, a wire-type equipment grounding conductor or a bonding jumper in accordance with 250.102(E)(2) shall be installed. f. If liquidtight flexible metal conduit contains a stainless steel core, a wire-type equipment grounding conductor or a bonding jumper in accordance with 250.102(E)(2) shall be installed. <p>(7) Flexible metallic tubing if the tubing is terminated in listed fittings and meeting the following conditions:</p> <ul style="list-style-type: none"> a. The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less. b. The combined length of flexible metal conduit, flexible metallic tubing, and liquidtight flexible metal conduit in the same effective ground-fault current path does not exceed 1.8 m (6 ft). <p>(8) Armor of Type AC cable as provided in 320.108.</p> <p>(9) The copper sheath of mineral-insulated, metal-sheathed cable Type MI.</p> <p>(10) Type MC cable that provides an effective ground-fault current path in accordance with one or more of the following:</p> <ul style="list-style-type: none"> a. It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1). b. The combined metallic sheath and uninsulated equipment grounding/bonding conductor of interlocked metal tape-type MC cable that is listed and identified as an equipment grounding conductor c. The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor <p>(11) Cable trays as permitted in 392.10 and 392.60.</p> <p>(12) Cablebus framework as permitted in 370.60(1).</p> <p>(13) Other listed electrically continuous metal raceways and listed auxiliary gutters.</p>	
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				<p>(14) Surface metal raceways listed for grounding.</p> <p>Informational Note: See Article 100 for a definition of effective ground-fault current path.</p> <p>(B) Not Permitted. The following shall not be used as equipment grounding conductors.</p> <p>(1) Grounding electrode conductors</p> <p><i>Exception: A wire-type equipment grounding conductor installed in compliance with 250.6(A) and the applicable requirements for both the equipment grounding conductor and the grounding electrode conductor in Parts II, III, and VI of this article shall be permitted to serve as both an equipment grounding conductor and a grounding electrode conductor.</i></p> <p>(2) Structural metal frame of a building or structure</p>	
W			<p>250.184 Solidly Grounded Neutral Systems. Solidly grounded neutral systems shall be permitted to be either single point grounded or multigrounded neutral.</p> <p>(A) Neutral Conductor.</p> <p>(1) Insulation Level. The minimum insulation level for neutral conductors of solidly grounded systems shall be 600 volts.</p> <p><i>Exception No. 1: For multigrounded neutral systems as permitted in 250.184(C), bare copper conductors shall be permitted to be used for the neutral conductor of the following:</i></p> <p>(1) <i>Service-entrance conductors</i></p> <p>(2) <i>Service laterals or underground service conductors</i></p> <p>(3) <i>Direct-buried portions of feeders</i></p> <p><i>Exception No. 2: Bare conductors shall be permitted for the neutral conductor of overhead portions installed outdoors.</i></p> <p><i>Exception No. 3: The grounded neutral conductor shall be permitted to be a bare conductor if isolated from phase conductors and protected from physical damage.</i></p> <p>Informational Note: See 225.4 for conductor covering where within 3.0 m (10 ft) of any building or other structure.</p> <p>(2) Ampacity. The neutral conductor shall be of sufficient ampacity for the load imposed on the conductor but not less than 33 1/3 percent of the ampacity of the phase conductors.</p> <p><i>Exception: In industrial and commercial premises under engineering supervision, it shall be permissible to size the ampacity of the neutral conductor to not less than 20 percent of the ampacity of the phase conductor.</i></p> <p>(3) Existing installations. In addition to the requirements of NEC 250.184(A), the use of a concentric shield as a neutral conductor for extension, replacement, or repair in existing</p>	<p>250.184 Solidly Grounded Neutral Systems. Solidly grounded neutral systems shall be permitted to be either single point grounded or multigrounded neutral.</p> <p>(A) Neutral Conductor.</p> <p>(1) Insulation Level. The minimum insulation level for neutral conductors of solidly grounded systems shall be 600 volts.</p> <p><i>Exception No. 1: For multigrounded neutral systems as permitted in 250.184(C), bare copper conductors shall be permitted to be used for the neutral conductor of the following:</i></p> <p>(1) <i>Service-entrance conductors</i></p> <p>(2) <i>Service laterals or underground service conductors</i></p> <p>(3) <i>Direct-buried portions of feeders</i></p> <p><i>Exception No. 2: Bare conductors shall be permitted for the neutral conductor of overhead portions installed outdoors.</i></p> <p><i>Exception No. 3: The grounded neutral conductor shall be permitted to be a bare conductor if isolated from phase conductors and protected from physical damage.</i></p> <p>Informational Note: See 225.4 for conductor covering where within 3.0 m (10 ft) of any building or other structure.</p> <p>(2) Ampacity. The neutral conductor shall have an ampacity that is not less than the load imposed and be not less than 33 1/3 percent of the ampacity of the phase conductors.</p> <p><i>Exception: In industrial and commercial premises under engineering supervision, it shall be permissible to size the ampacity of the neutral conductor to not less than 20 percent of the ampacity of the phase conductor.</i></p>	<p>WAC amendment</p> <p>Seattle proposes: Carry forward 2020 SEC amendments and overlay on 2023 NEC language.</p> <p>4/24/2024 Committee agrees to carry forward:</p> <p>JLG 5-13-2024. Why don't we carry forward the state's requirements for new installations: (b) New installations. (i) New installations do not include extensions of existing circuits. (ii) The use of the concentric shield will not be allowed for use as a neutral conductor for new installations. A listed separate neutral conductor meeting the requirements of NEC 250.184(A) must be installed.</p>

		<p><u>installations is permitted, if all of the following are complied with:</u></p> <p><u>(a) The existing system uses the concentric shield as a neutral conductor;</u></p> <p><u>(b) Each individual conductor contains a separate concentric shield sized to no less than thirty-three and one-third percent of the ampacity of the phase conductor for three phase systems or one hundred percent of the ampacity of the phase conductor for single-phase systems;</u></p> <p><u>(c) The new or replacement cable's concentric shield is enclosed inside an outer insulating jacket; and</u></p> <p><u>(d) The existing cable (i.e., existing cable installed directly in the circuit between the work and the circuit's overcurrent device) successfully passes the following tests:</u></p> <p><u>i. Cable maintenance high potential dielectric test. The test must be performed in accordance with the cable manufacturer's instruction or the most recently published ANSI/NETA maintenance test specifications; and</u></p> <p><u>ii. Resistance test of the cable shield. Resistance must be based on the type, size, and length of the conductor used as the cable shield using the conductor properties described in NEC Table 8 Conductor Properties.</u></p> <p><u>An electrical engineer must provide a specific certification to the electrical plan review supervisor in writing that the test results of the maintenance high potential dielectric test and the resistance test have been reviewed by the electrical engineer and that the cable shield is appropriate for the installation. The electrical engineer must stamp the certification document with the engineer's stamp and signature. The document must be in the form of a letter or electrical plans.</u></p> <p><u>Testing results are valid for a period of seven years from the date of testing. Cable must not be required to be tested at a shorter interval.</u></p> <p><u>Informational Note: WAC 296-46B-250 (10) has been incorporated into this section.</u></p> <p>(B) Single-Point Grounded Neutral System. Where a single-point grounded neutral system is used, the following shall apply:</p> <p>(1) A single-point grounded neutral system shall be permitted to be supplied from (a) or (b):</p> <p>a. A separately derived system</p> <p>b. A multigrounded neutral system with an equipment grounding conductor connected to the multigrounded</p>	<p>(3) Existing installations. In addition to the requirements of NEC 250.184(A), the use of a concentric shield as a neutral conductor for extension, replacement, or repair in existing installations is permitted, if all of the following are complied with:</p> <p><u>(a) The existing system uses the concentric shield as a neutral conductor;</u></p> <p><u>(b) Each individual conductor contains a separate concentric shield sized to no less than thirty-three and one-third percent of the ampacity of the phase conductor for three phase systems or one hundred percent of the ampacity of the phase conductor for single-phase systems;</u></p> <p><u>(c) The new or replacement cable's concentric shield is enclosed inside an outer insulating jacket; and</u></p> <p><u>(d) The existing cable (i.e., existing cable installed directly in the circuit between the work and the circuit's overcurrent device) successfully passes the following tests:</u></p> <p><u>i. Cable maintenance high potential dielectric test. The test must be performed in accordance with the cable manufacturer's instruction or the most recently published ANSI/NETA maintenance test specifications; and</u></p> <p><u>ii. Resistance test of the cable shield. Resistance must be based on the type, size, and length of the conductor used as the cable shield using the conductor properties described in NEC Table 8 Conductor Properties.</u></p> <p><u>An electrical engineer must provide a specific certification to the electrical plan review supervisor in writing that the test results of the maintenance high potential dielectric test and the resistance test have been reviewed by the electrical engineer and that the cable shield is appropriate for the installation. The electrical engineer must stamp the certification document with the engineer's stamp and signature. The document must be in the form of a letter or electrical plans.</u></p> <p><u>Testing results are valid for a period of seven years from the date of testing. Cable must not be required to be tested at a shorter interval.</u></p> <p><u>Informational Note: WAC 296-46B-250 (10) has been incorporated into this section.</u></p> <p>(B) Single-Point Grounded Neutral System. If a single-point grounded neutral system is used, the following shall apply:</p>	
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		<p>neutral conductor at the source of the single-point grounded neutral system</p> <p>(2) A grounding electrode shall be provided for the system.</p> <p>(3) A grounding electrode conductor shall connect the grounding electrode to the system neutral conductor.</p> <p>(4) A bonding jumper shall connect the equipment grounding conductor to the grounding electrode conductor.</p> <p>(5) An equipment grounding conductor shall be provided to each building, structure, and equipment enclosure.</p> <p>(6) A neutral conductor shall only be required where phase-to-neutral loads are supplied.</p> <p>(7) The neutral conductor, where provided, shall be insulated and isolated from earth except at one location.</p> <p>(8) An equipment grounding conductor shall be run with the phase conductors and shall comply with (a), (b), and (c):</p> <ul style="list-style-type: none"> a. Shall not carry continuous load b. May be bare or insulated c. Shall have sufficient ampacity for fault current duty <p>(C) Multigrounded Neutral Systems. Where a multigrounded neutral system is used, the following shall apply:</p> <p>(1) The neutral conductor of a solidly grounded neutral system shall be permitted to be grounded at more than one point. Grounding shall be permitted at one or more of the following locations:</p> <ul style="list-style-type: none"> a. Transformers supplying conductors to a building or other structure b. Underground circuits where the neutral conductor is exposed c. Overhead circuits installed outdoors <p>(2) The multigrounded neutral conductor shall be grounded at each transformer and at other additional locations by connection to a grounding electrode.</p> <p>(3) At least one grounding electrode shall be installed and connected to the multigrounded neutral conductor every 400 m (1300 ft).</p> <p>(4) The maximum distance between any two adjacent electrodes shall not be more than 400 m (1300 ft).</p> <p>(5) In a multigrounded shielded cable system, the shielding shall be grounded at each cable joint that is exposed to personnel contact.</p>	<p>(1) A single-point grounded neutral system shall be permitted to be supplied from <u>one of the following</u>:</p> <ul style="list-style-type: none"> a. A separately derived system b. A multigrounded neutral system with an equipment grounding conductor connected to the multigrounded neutral conductor at the source of the single-point grounded neutral system <p>(2) A grounding electrode shall be provided for the system.</p> <p>(3) A grounding electrode conductor shall connect the grounding electrode to the system neutral conductor.</p> <p>(4) A bonding jumper shall connect the equipment grounding conductor to the grounding electrode conductor.</p> <p>(5) An equipment grounding conductor shall be provided to each building, structure, and equipment enclosure.</p> <p>(6) A neutral conductor shall only be required if phase-to-neutral loads are supplied.</p> <p>(7) The neutral conductor, <u>if</u> provided, shall be insulated and isolated from earth except at one location.</p> <p>(8) An equipment grounding conductor shall be run with the phase conductors and shall comply with <u>all of the following</u>:</p> <ul style="list-style-type: none"> a. Shall not carry continuous load b. <u>Shall</u> be bare, <u>covered</u>, or insulated c. Shall have ampacity for fault current duty <p>(C) Multigrounded Neutral Systems. <u>If</u> a multigrounded neutral system is used, the following shall apply:</p> <p>(1) The neutral conductor of a solidly grounded neutral system shall be permitted to be grounded at more than one point. Grounding shall be permitted at one or more of the following locations:</p> <ul style="list-style-type: none"> a. Transformers supplying conductors to a building or other structure b. Underground circuits <u>if</u> the neutral conductor is exposed c. Overhead circuits installed outdoors. <p>(2) The multigrounded neutral conductor shall be grounded at each transformer and at other additional locations by connection to a grounding electrode.</p>	
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