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March 29, 2017

***Via Electronic Mail***

Steven V. King

Executive Director and Secretary

Washington Utilities & Transportation Commission

1300 S. Evergreen Park Drive S. W.

P.O. Box 47250

Olympia, Washington 98504-7250

Re: Docket No. UE-160799 - Comments of Avista Utilities on Draft Policy and Interpretive Statement

Dear Mr. King,

Avista Corporation, dba Avista Utilities (Avista or Company), submits the following comments in accordance with the Washington Utilities and Transportation Commission’s (Commission) Notice of Opportunity to Submit Written Comments (Notice) issued in Docket UE-160799 on January 13, 2017.

The Commission established Docket UE-160799 “to assist the Commission in determining whether to open a rulemaking or issue a policy statement” relating to utility investment in Electric Vehicle Supply Equipment (EVSE) pursuant to RCW 80.28.360. Avista provided comments in this docket on August 16, 2016, attended the Commission’s workshop held on September 13, 2016, and submitted a second round of comments on November 22, 2016. Along with the Notice issued January 13th the Commission issued a “Draft Policy Statement and Interpretive Statement…describing its proposed policies for implementing RCW 80.28.360 and its regulation of electric vehicle (EV) charging services offered by electrical companies as a regulated service.” The Commission is now seeking comments in response to the draft policy statement in addition to specific questions laid out in the Notice.

Avista appreciates the opportunity to provide comments in response to the draft policy statement. First, the Company would like to thank Commission Staff for their time and diligence in preparing the draft policy statement. Overall, Avista appreciates the intent and content of the draft policy statement and the level of support and clarity a final statement will provide to all affected stakeholders regarding the issues raised within this docket.

Before commenting on the draft policy statement, the Company would like to note one correction to paragraph six of the Background section. Paragraph six discusses Avista’s EVSE Pilot Program, but included an incorrect date for which the program went into effect. The Company’s EVSE Pilot Program tariff was approved with an effective date of May 2, 2016 and the two-year installation period for the program began with the first installation on July 20, 2016. The two-year installation period will conclude on July 20, 2018 with several years of data collection and reporting to follow.

Avista provides the following comments on individual sections in the draft policy statement.

**Part I – Electric Vehicle Charging as a Regulated Service**

As noted in paragraph 59 of the draft policy statement, “In the case of EV charging services, the public purpose is apparent. In enacting RCW 80.28.360, the Legislature made a clear finding supporting participating in electrification of the transportation system…”[[1]](#footnote-1) Further, the Commission notes that the findings of the Legislature “establish a public purpose for investor-owned utilities to pursue electrification of the transportation system.”[[2]](#footnote-2) The Commission concludes “by adopting a policy supporting transformation of the EV market through utility provision of a portfolio of regulated EV charging services…”[[3]](#footnote-3) The Company agrees that the Commission has drawn the correct conclusion within the draft policy statement and fully agrees that the Legislature’s findings regarding the utility’s role in the electrification of the transportation system are a principle building block on which the policy statement should be adopted. In addition to the benefits of reduced greenhouse gas emissions and improved air quality cited in House Bill 1853, significant economic and other benefits may also be realized from electrified transportation, in the form of fuel and maintenance cost savings, greater energy security, and improved grid asset utilization. As discussed in the draft policy statement, there are many elements for the Commission to consider when a utility intends to offer EV charging services on a “fully regulated basis.”

The first consideration as it relates to electrical companies offering electrical vehicle charging as a regulated service is the used and useful standard. The Company agrees with the Commission’s conclusion that retaining flexibility in applying the used and useful standard to infrastructure investments for EV charging services on a regulated basis is the best approach. Investor owned utilities have been encouraged and directed to aide in the acceleration of EV adoption by offering programs to promote EVSE on a regulated basis.[[4]](#footnote-4) As utilities begin making infrastructure investments in EVSE, many of those investments are needed in advance of the traditional demonstration of need.

The purpose of investments in EVSE is to provide a network in which EV drivers can charge their vehicles. Without a diversified and reliable charging network, many consumers will not purchase an EV. If consumers do not purchase EVs, the public policy purposes of electrification of the transportation sector will not be met. As noted above, the Legislature and Commission have recognized that the public purpose is apparent for EV charging services. The evaluation of benefits to customers is another important consideration that will also require flexibility as many of the benefits customers realize may be different in both the form and timing of the benefits compared to more traditional infrastructure investments (e.g., reductions in greenhouse gas emissions and fuel cost savings).

 The Company agrees with the Commission’s view that any request to recover EVSE investments should be accompanied by sufficient data and analysis along with a business case for why the utility chose to make the investments, based on the knowledge and information available at the time the decision was made. Avista is hopeful that the experience and lessons learned from its EVSE Pilot Program will inform and support requests for cost recovery as well as the design and planning of future EV charging programs.

 With regard to EV charging rate considerations, in Avista’s filing for its EVSE Pilot Program, the Company proposed a market-based rate of $0.30/minute for the seven DC Fast Charging stations included in the program. Much time was spent discussing the Company’s proposed rate as it was an alternative to a cost-based rate. The main concern discussed with the proposed rate was whether it was sufficient to recover expenses, or if the rate was subsidized by non-participating customers. The Commission makes note of this in the draft policy statement as it allowed the rate to go into effect because the program was a pilot. The question of the proper rate design will be carried through to future program design and review. Through the course of pilots and studies, the benefits incurred by non-participating customers will become clearer, allowing for more informed consideration. For now, retaining flexibility with rate design will remain important to help kick-start the growth in EVSE investments that in turn support greater EV adoption.

Avista appreciates the Commission’s inclusion of the discussion of banded rates for future EV charging services. EV charging is unlike the traditional delivery of electricity in many ways, and at least in public locations, is more analogous to vehicles fueling at gasoline stations. Just as gasoline stations move their rates on a regular basis, the ability to have a banded rate will be important as rates for EV charging services will need to remain competitive with gasoline equivalent options and may need to change often. As utilization increases at EVSE stations, the rate may be decreased. Rather than make a tariff filing each time the rate needs adjustment, a banded rate option would allow flexibility in the process and time spent for all stakeholders reviewing the proposed rate change request.

 With regard to electrical vehicle charging equipment and the sale, transfer, and disposal of utility property, RCW 80.28.360 allows the utility to “gift” EVSE to the owner of the property on which it is located at the end of the equipment’s depreciable life.[[5]](#footnote-5) Avista agrees that the Legislature provided a clear directive that utility investments in EVSE may be gifted at the end of its depreciable life. The analysis of RCW 80.28.360, 80.04.270, 80.12.020, and 80.12.030 in the draft policy statement is informative, but may not be necessary.

The distinction between the sale of equipment under RCW 80.12.020 and/or RCW 80.12.030, and the gifting of EVSE under RCW 80.28.360 is supported by traditional canons of statutory interpretation.  In interpreting a statute, such as the gifting exemption in RCW 80.28.360, the words utilized by the Legislature are to be given their usual and ordinary meaning.  See, e.g., Strenge v. Clarke, 89 Wash.2d 23, 28, 569 P.2d 60 (1977).  Thus, where the statutory language is plain and ambiguous, the meaning of the statute must be derived from the wording of the statute itself.  See, e.g., In re Lehman, 93 Wash.2d 25, 27, 604 P.2d 948 (1980), citing Garrison v. State Nursing Board, 87 Wash.2d 195, 550 P.2d 7 (1976).  Here, RCW 80.28.360 plainly and unambiguously allows for the gifting of a fully depreciated EVSE.  Likewise, because the Legislature is presumed to be familiar with prior legislation, it can be assumed that the Legislature was aware of RCW 80.12.020 and 80.12.030 when it enacted RCW 80.28.360, and that it intended to create a narrow exemption to the same.  See, e.g., State v. Pauling, 23 Wash.App. 226, 597 P.2d 1367 (1979).  In both respects, the ability of a utility to gift a fully depreciated EVSE is both fully and expressly resolved by the plain language of R.C.W. 80.28.360.

The Company requests that the Commission consider removing the provision that gifting of EVSE will be determined on a case-by-case basis. As long as a utility’s plans for gifting at the end of the EVSE depreciable life align with the guidance provided in the final policy statement, it seems that a request to gift EVSE and a decision by the Commission on a case-by-case basis is not necessary.

 The last item covered as it relates to electrical companies offering electrical vehicle charging as a regulated service is the eligibility for the incentive rate of return described in RCW 80.28.360. The Company agrees with the conclusions drawn on the eligibility and application for the incentive rate of return in the draft policy statement.

**Part II – Policies to Improve Access to and Promote Fair Competition in the Provision of Electric Vehicle Charging Services**

Electric utility EVSE programs, similar to current non-utility programs and the competitive marketplace, are key to enabling EV adoption that results in benefits to all utility customers and the people of Washington State. Avista’s EVSE Pilot Program was designed to align with State policy goals to achieve societal benefits, be responsive to its customers, and address critical EV adoption barriers. Prior to the start program of the program there were very few EVSE in the Company’s service territory. The program was designed to be one step towards achieving the charging infrastructure needed in its territory, while providing an important channel for learning and paving the way for cost-effective off-peak charging, improved system planning, and ultimately lower life-cycle costs of grid infrastructure. The main barriers to further adoption of EVs noted in the draft policy statement are vehicle purchase price, driving range, charging availability, and consumer awareness.[[6]](#footnote-6) Avista would agree that utilities are most naturally positioned to address the barriers of charging availability and consumer awareness, but not the sole entity needed to overcome these barriers.[[7]](#footnote-7) Over time, as technologies improve and more consumers become aware of the benefits of EVs, consumer demand should increase, which may act to further improve vehicle availability, driving ranges and purchase prices.

 Utilities will play a critical role in market transformation as it relates to transportation electrification, but they cannot accomplish this alone. Additional stakeholders and third-parties through a competitive market will also need to play a role in building out infrastructure to support EV charging services to meet the needs of a transformed market. One of the barriers to EV adoption is the access to DC Fast Chargers that enable long distance travel. To help alleviate this barrier in its service territory, Avista is installing seven DC Fast Chargers as part of its EVSE Pilot Program. Site selection is important to maximize utilization and support the electrification of key travel corridors. Avista appreciates the opportunity to consult with the Washington State Department of Transportation (WSDOT) on the location of its DC Fast Chargers, as it is important to ensure that Avista’s plans align with WSDOT’s plans. Avista agrees with the directive in the draft policy statement that utilities should consult WSDOT on offerings that include DC Fast Charging.

Utilities can best serve all customers in their service territories by offering EVSE programs that provide a range of options that are tailored to a variety of customer needs and provide the greatest overall system benefits. A regulatory policy supporting a portfolio approach as outlined in the draft policy statement can help ensure that utilities offer such long-term programs in a way that is effective, flexible, and continuously improving, while appropriately promoting customer choice, innovation and healthy competition in the industry. This can cover a broad range of utility products and services, from a “provider” of EV charging services on one end of the spectrum where the utility owns and operates the entirety of charging infrastructure, to a “manager” of EV charging services where the customer owns the infrastructure provided by a third-party and the utility provides ancillary services such as managed charging. The proper scope and scale of these product and service offerings depends on the specific nature and state of EV adoption in a given service territory.

In the early phases of EV adoption, a relatively simple program that does not offer a full range of products and services may be most appropriate, which effectively addresses early barriers while minimizing costs. Over time, customer needs will change and utility programs should adjust and expand to accommodate the growing needs and variety of customer segments in their service territory, providing greater customer choice and overall value in the portfolio. This may include “hybrid” programs which are a blend of the “provider” and “manager” ends of the spectrum, e.g. EVSE installed and owned by the utility with managed charging, while costs and ownership of other premises wiring and related equipment are retained by the property owner. Such a scenario may include customers selecting the type of equipment they would like to have installed directly from a third-party. Utilities must be dedicated to provide an excellent customer experience, grounded in a deep understanding of customer needs that is based on experience. If customers know that they can depend on the utility to provide an excellent product and service that is tailored to them and reliably supported over time, that will go a long way to reducing perceived risks, alleviating concerns, and accelerating EV adoption. Through competitive RFP bidding processes and assurance of interoperable equipment and backend network platforms, the utility can also promote innovation and competition in the industry and effectively bring reliable, high-value products and services to market, while minimizing costs and protecting the interests of all electric customers.

The Company intends to include effective load management as a prioritized component of future EVSE programs. In the next several years, existing grid assets can handle the peak loads from EV charging without significant investments in new distribution or capacity infrastructure. Over the long term, however, the peak loads from EVs could become significant if left unmanaged, driving up infrastructure costs for all customers. Because of the potential long term impacts of EV charging, it is in the interest of all customers for utilities to retain flexibility to design programs that both develop load management capabilities in the near term with networked EVSE, as well as program components that include non-networked EVSE in certain circumstances. Technologies and methodologies will continue to develop and improve, for example in the areas of communication networks and the interfaces between utility systems, charging infrastructure, and the EVs themselves. Over time as greater knowledge and capabilities are gained, improvements may be implemented that move toward optimization of costs and benefits in the overall EVSE portfolio, including load management.

Avista does not agree that low-income customers are not likely to benefit directly from access to EVSE during the market transformation phase.[[8]](#footnote-8) Although this seems to be true at present, the cost of EVs are continuing to drop and the used EV market is getting larger. A search of used Nissan Leafs in the areas of Spokane, Seattle, and Portland showed used vehicles starting at $4,150[[9]](#footnote-9) with many vehicles below $7,000. Used EVs are nearing the point where some low-income customers may consider purchasing them, as the fuel and maintenance cost savings create a strong value proposition. As low-income customers purchase EVs they will have the same access to public EVSE as all customers. Also, low-income customers stand to benefit from Avista’s EVSE Pilot Program and load management. Through the EVSE Pilot Program, Avista will develop the capability to better utilize grid assets, which is a long-term benefit to all customers. Additionally, the environmental benefits are applicable to all customers. Avista supports the idea of working with stakeholders on program elements and investments in EVSE that will be beneficial and easily accessible for low-income customers. This may include options such as special discounts that encourage EVSE installations at MUDs and workplaces.

Avista agrees that hardware and backend software interoperability should be a key component of utility EVSE programs. Besides allowing customers to move seamlessly between networks and allow for easier and less costly data integration, the primary concern is to avoid major investments in systems that become obsolete or create the risk of stranded assets, because they are not interoperable at a fundamental level with other EVSE and/or backend software platforms. Interoperability reduces the risk of being “locked in” to a given proprietary technology and/or charging system that can become unreliable and/or unsupportable. It also serves to encourage functional innovations and cost improvements. Technologies will improve and evolve in this sector, including features related to user authentication, billing, and communications between the EVSE, backend network platform, the utility, and the EV itself. Communication methods may include Wi-Fi systems owned by the customer, cellular equipment in the EVSE, and/or RF mesh networks owned by the utility. Regardless of how these developments play out, open communication protocols and standards are very important to facilitate interoperability, which has tremendous implications for long term benefits and should be fully supported by utilities and the Commission. Retaining flexibility to evolve with technological progress is important. Utilities and other stakeholders should be required to develop and support interoperable systems that ultimately benefit and protect consumers, including among other things, using RFP processes to select products and services offering the highest value for the utility and its customers.

The Company is supportive of seeking input on future EVSE programs ahead of formal filings, but has some concern about the directive to invite all parties who commented on this rulemaking to be a part of the stakeholder group. It has been demonstrated through the Company’s filing of its EVSE Pilot Program and this rulemaking that stakeholders do not agree on many of the policy considerations that have been discussed. If the purpose of the stakeholder group is to review proposed utility programs and make recommendations to inform programs as described in the draft policy statement, then the Company suggests the core stakeholder group include representatives from Commission Staff, Public Counsel, WSDOT, low income advocates, and other state agencies and/or environmental groups. These groups are not “tethered” to certain technologies and/or equipment. Also, one piece of information that the draft policy statement requires utilities to share with the stakeholder group is requests for proposals or information. If all parties that commented on this rulemaking are invited to the stakeholder group, the Company does not believe it is appropriate to share these requests in advance with those organizations that participated in the rulemaking and also would likely bid on the request for proposal or provide information.

Avista agrees that the information from market participants is important to the design of future utility programs. This information from other interested parties can be incorporated through requests for information (RFIs), requests for proposals (RFPs), and invitations to present to the stakeholder group. If the Commission intends for the stakeholder group to have general policy discussions regarding EVSE and EV charging services, then the Company agrees with inviting all parties who commented on this rulemaking to participate.

The current draft policy statement is unclear as to the process for which a utility must incorporate feedback from the stakeholder group on its proposed programs. It is unlikely that a utility will get full support and/or agreement from the stakeholder group before making a filing. Avista recommends adding language to the draft policy statement that recognizes that proposals to the Commission by a utility may or may not have the full support of the stakeholder group. Further, the draft policy statement goes on to state that the utility must discuss reporting requirements with stakeholders. We agree, but recommend the policy statement recognize there may not be full agreement among stakeholders on proposed reporting requirements.

It is reasonable to expect utilities to design program portfolios at a cost commensurate with expected benefits, including increased revenue, grid management benefits, and regional economic and environmental benefits in the form of a Societal Cost Test (SCT), or some other similar analysis method. The calculation of benefits is unavoidably sensitive to a wide variety of assumptions, therefore a range of plausible scenarios must be investigated to form a robust analysis and provide useful insights. However, these calculations should be used to inform rather than unreasonably restrict program designs and approvals. HB 1853 primarily justified utility investment in EVSE as a way to benefit the citizens of Washington State by reducing greenhouse gas emissions in the transportation sector. It is not clear how a utility may claim reductions in greenhouse gas emissions resulting from increasing numbers of EVs, nor how this benefit may be properly factored into an SCT calculation. For this reason, further discussion and more specific policy guidance may be needed to determine how emissions reductions from EV adoption may be accounted for and included in an SCT calculation related to a utility’s proposed program design. Furthermore, the utility’s traditional obligation to serve may need to be considered, e.g. utility investments in “make ready” infrastructure may not be properly accounted for as “costs” in a portfolio’s calculated SCT, if the utility is simply providing required infrastructure to a customer that wishes to install, own and operate an EVSE.

In addition to developing a portfolio of EVSE products and services for light-duty EVs, the Company intends to explore how it may best serve customers in the electrification of commercial transportation. Potential areas include commercial light-duty fleets, heavy-duty fleets, taxis, mass transit buses, school buses, forklifts, airport ground support equipment, truck stops, refrigerated trailers, port handling equipment, and rail systems. The provision of electricity and EVSE is a fundamental building block enabling transportation electrification, and the utility may be able to provide unique value to the customer in these areas. For example, in the case of mass transit buses, the guidance under this policy statement could help a local transit authority partner with the utility to make the decision to begin to electrify their diesel bus fleet. We request that the Commission consider issuing policy guidance that permits utility EVSE investments in areas other than for light-duty passenger EVs, commensurate with a reasonable interpretation of the HB 1853 legislation.

Lastly, the Company offers the following comments in response to the specific questions included in the Notice:

1. **What is the definition of “Electric Vehicle Supply Equipment,” and how should the Commission consider ownership of EVSE as a factor to determine whether a utility serves as a “provider,” or “manager” of EV charging services?**

**Response:** According to the National Electric Code[[10]](#footnote-10), EVSE is defined as “the conductors, including the ungrounded, grounded, and equipment grounding conductors, the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatuses installed specifically for the purpose of delivering energy from the premises wiring to the electric vehicle.” In cases where the utility owns the premises wiring all the way from the meter to the EVSE, the Commission should consider the utility as a “provider” of EV charging services and regulate the allowed EVSE user fees. In cases where the utility does not own any equipment downstream of the customer meter, but provides ancillary services including but not limited to load management, installation consultation, and “make ready” infrastructure investments, it may be considered a “manager” of EV charging services. For cases where the utility owns the EVSE itself but not the premises wiring, the customer continues to pay for the electricity through their regular bills, and in the case of commercial locations may require user fees unregulated by the Commission. In this case, the utility may best be considered a “provider” of EV charging services.

1. **What criteria should the Commission use to determine whether a portfolio is “balanced”?**

**Response:** The primary criteria should relate to the specific nature and state of EV adoption in a given service area, i.e. a “balanced” portfolio is one that best serves customers, all things considered. Greater complexity and costs associated with offering a wide spectrum of EVSE products and services must be balanced with what is most cost effective and likely to be useful and/or utilized, given the state of EV adoption for a specific area. For example, in the early phases of EV adoption, a relatively simple program may be most appropriate, which effectively addresses basic, early adoption barriers while minimizing costs. This might entail a basic offering for AC Level 2 EVSE installations at home, workplaces and public locations, and a few DC fast chargers to provide a backbone of infrastructure, facilitating early adoption while minimizing complexity and cost. Over time, utility programs may be adjusted and expanded to accommodate the growing needs and variety of customer segments in their service territory, providing greater customer choice and overall value in the portfolio. This could include a range of utility EVSE “provider” and “manager” program components, managed charging services, a variety of payment plans and financing services, as well as a larger number of EVSE to choose from that meet interoperability requirements.

1. **What specific policies should the Commission adopt regarding interoperability of utility-owned charging infrastructure? We expect that both the EVSE hardware developed by the manufacturers and the software and communications components to continue to advance and develop rapidly over time. Accordingly, how should the Commission ensure that EV owners are not locked in to a certain type of technology (either hardware or software) as the market develops, and what role should the Commission have in assuring some type of backend interoperability between the EVSE at the hosting site and the operator of the overall EVSE systems?**

**Response:** For reasons previously mentioned, the Commission should require utilities to deploy EVSE systems that are interoperable, utilizing open communication protocols between EVSE hardware and backend software platforms. “Cloud-to-cloud” communications between different backend software platforms is not adequate in this regard, as it leaves open the risk of stranded assets should a given set of EVSE and/or a backend network become obsolete or unsupported. Additionally, from an operational perspective, this architecture adds complexity and cost to the overall system, and can lead to a reduced ability to provide remote driver and site host support. Both national and international standards in this area are under development. Several backend network providers offer platforms compliant with the industry standard Open Charge Point Protocol (OCPP) v1.6. This protocol is free from intellectual property and royalties, which helps facilitate and encourage innovation in the industry at lower costs to all concerned. Vendors are free to comply with basic information exchanges using this protocol, while providing additional functionality that may be proprietary in nature, designed to enhance the customer experience and differentiate their products and services.

1. **What policy mechanisms or standards are available to promote system-wide interoperability for drivers, such that EV drivers can charge any EV model and pay for the charge without joining a multitude of charging networks? Does the Commission have a role in overseeing the development of these standards or protocols, or should it provide guidance on the characteristics of an open EVSE system or a more common interoperable platform?**

**Response:** To the Company’s knowledge there are no currently available protocols or standards employed in the United States to promote system-wide interoperability for drivers, other than the use of credit cards. Credit card swipes are universal but add costs in equipment, fees, and maintenance. The Company would welcome any policies that could be effective in promoting this important benefit. Further consultation with industry experts such as those at the Electric Power Research Institute (EPRI) and the California Air Resources Board (CARB) might provide more insight on how the Commission could serve in helping to develop and/or support standards and protocols, and/or guidance that specifies characteristics of an open EVSE system, seamless driver mobility and common interoperable platforms.

1. **The Commission requests feedback on its proposed policy allowing for a single joint stakeholder group to participate in review of utility EV charging service program design and review.**

**Response:** As mentioned above, the Company supports the concept of seeking input from a joint stakeholder group on future EVSE programs ahead of formal filings. Avista recommends that the draft policy recognize that the stakeholder group may not fully agree on the design elements and reporting requirements of a future EVSE program, but this should not limit a utility’s ability to move forward with a filing to the Commission.

Avista appreciates the opportunity to provide these comments, and we look forward to the continued dialogue in this process. Please direct any questions regarding these comments to me at 509-495-2782 or by email, shawn.bonfield@avistacorp.com.

Sincerely,

Shawn Bonfield

Sr. Regulatory Policy Analyst

Avista Utilities

1. Docket UE-160799 Draft Policy Statement, ¶ 59 [↑](#footnote-ref-1)
2. Docket UE-160799 Draft Policy Statement, ¶ 60 [↑](#footnote-ref-2)
3. Docket UE-160799 Draft Policy Statement, ¶ 60 [↑](#footnote-ref-3)
4. Docket UE-160799 Draft Policy Statement, ¶ 21 [↑](#footnote-ref-4)
5. Docket UE-160799 Draft Policy Statement, ¶ 36 [↑](#footnote-ref-5)
6. Docket UE-160799 Draft Policy Statement, ¶ 65 [↑](#footnote-ref-6)
7. Docket UE-160799 Draft Policy Statement, ¶ 65 [↑](#footnote-ref-7)
8. Docket UE-160799 Draft Policy Statement, ¶ 86 [↑](#footnote-ref-8)
9. <https://portland.craigslist.org/wsc/cto/5973298764.html> [↑](#footnote-ref-9)
10. National Electric Code (2017), Article 625 [↑](#footnote-ref-10)