

CONCISE EXPLANATORY STATEMENT

Chapter 296-45 WAC Safety Standards for Electrical Workers

Public Hearings: January 26th, January 27th, February 1st, and February 3rd, 2016

Adoption: May 3, 2016

Effective Date: July 1, 2016

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I. Purpose of Rulemaking

This rulemaking is federally initiated. The department responded to a Federal Register notice where the Occupational Safety and Health Administration (OSHA) published their final rule relating to Electric Power Generation, Transmission, and Distribution; Electrical Protective Equipment (29 CFR 1910 and 1926). This was published on April 11, 2014 and effective July 11, 2014. The department is required to update our rules to be at least as effective as OSHA.

A. Background

OSHA's final rule includes new or revised requirements for fall protection, minimum approach distances, and arc-flash protection, and for host employers and contract employers to exchange safety-related information. The rule also includes requirements for electrical protective equipment.

The primary beneficiary for this rule will extend to the employees. Employees will be provided a safer work place with more effective hazard assessment, improved safe work practices, and clearer language in critical areas.

B. Summary of the rulemaking activities

A small subcommittee was formed from the Electrical Utility Safety Advisory Committee (EUSAC), representing both business and labor. This group has been working with DOSH staff to determine the extent of rulemaking needed to align its rule with OSHA. An initial meeting was held in June, 2014 after OSHA's new rule was released and several additional meetings were held through August 10, 2015.

II. Changes to the Rules (Proposed rule versus rule adopted):

WAC 296-45-25510 Fall protection.

- Changed "qualified employee" to "qualified electrical employee" in subsection (4)(c)(iii) to be consistent in the use of this terminology throughout the rule.

WAC 296-45-905 Appendix C – Methods of inspecting and testing wood poles – nonmandatory.

- II. "Inspection of wood poles". Changed "qualified employee" to "qualified electrical employee" to be consistent in the use of this terminology throughout the rule.

Public Hearings: Four public hearings were held throughout the state. A total of ninety-one people attended the hearings. Twenty-eight attendees provided verbal testimony. An additional eleven written comments were received from industry representatives. In addition, a petition with over 700 signatures supporting the changes to Chapter 296-45 WAC

was received by the department. Following is a summary of the comments the department received.

Note: One department employee submitted written comments during the public hearing phase of this rulemaking. The employee's comments were evaluated with no changes being made to the rule. Because the purpose of the public hearing phase is to gather input from the public who represent the industry affected by the rulemaking, internal staff comments are not included in this document.

III. Summary of Comments Received and Department Response

General Comments	Department Response
<p>I just want to thank the Department for all the work that they did with regard to herding these cats into one concise document for us to be able to take a look at and review here. It's a tremendous amount of work invested. If I talk about the helicopter rules or the OSHA update, you know, that is not an easy task. And, you know, we really feel privileged to be here and see these final documents, and we really concur with both the consensus document for the OSHA update and also for the helicopter rules. (Lou Walter, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>IBEW Local 77, back in 1913, had a President, George Lou Brooks, and he also invented Brooks socks, which may not mean anything to people, but it will to the people who work in the trade. He went to Olympia and he actually got the legislature to pass I believe the very first electrical worker safety rules in the nation. And there were two points to that. One was that the loss of life in our industry was significant. Sometime, depending on what you hear, it was like one out of two, 50 percent fatality rate. And you could imagine what the injury rate was. So, there was a real need in dealing with this new physical product of electricity, high-voltage electricity, to look at, establish some practices that would in essence save lives. And George Lou Brooks and the State of Washington developed that. And I believe they were adopted in July of '14. So, we are talking about close to 102 years of having a history of the participation of both labor, state, and in that case, the employers weren't too thrilled with that, but having said that, eventually came around and worked jointly and mutually to establish safe workplaces. The other significant thing, there were two elements that came out of that. One was that working on high-voltage lines, you have two, the word was at that time "competent workers," to be able to work. So, that kind of established what we call the two-man rule.</p>	<p>Thank you for your comments on the history of rulemaking for the electrical industry.</p>

And the other significant thing that was done, I believe, in the 1913 laws, as we call them, that were adopted in '14, they established a department or allowed the Director of the Department of now Labor and Industries to continue to propagate rules, to continue to establish additional regulations, issues that arise with regard to safe workplace regarding high voltage electrical workers. So, I just wanted to indicate this. So, it is very important to us that this legacy that we started back in 1913, 102 years ago, continues, and that we participate, and participate with respect, and participate professionally, and participate with the partnership. And the partnership involved here is the employer, the labor represented by IBEW Local 77, IBEW 483 out of Tacoma, Washington, and IBEW 125 out of Portland, which has some jurisdiction amongst the Columbia River, north of the Columbia River for some of the PUDs down there, and plus the Yakima area. So, it is very important to us, obviously just talking about the history, the legacy. I have had the privilege to participate since I think 1977, which I can't believe how long ago that was, that we actually, I remember the first committee I sat on. Back then it was called the ad hoc, and it worked with the employers and the State and IBEW, in this case, to work on safety rules regarding at that time what we called the URD rules. Because all we had in Chapter 45 was underground rules, and the underground rules weren't applicable to this new type of electrical delivery system we call underground residential distribution, URD. And I've done work on, I remember at the time back in the day, I got the privilege to work on tree trimming, trim trimming rules, and being involved extensively. So, this thing, all I am saying, is close to my heart. Because I know how it evolved over a significant amount of time. And I feel that that legacy was handed off to all of us to continue to support the safest working conditions as possible. So, I just wanted to indicate that so it's in the record, that we support the helicopter provisions in the rules. We think they're significant. Everything is not perfect, but we don't want to

<p>throw the good away because we can't get the perfect. But it is a standard that we believe will provide a high level of safety that will be currently experienced by electrical workers working off of helicopters. Obviously, the adoption of the OSHA standards are something that we believe will be equal to or greater than the current standard and to be able to establish what we think will continue to establish what we believe is a safe workplace and practice. Every day that we apply the practices, we apply those regulations, our people, the members we represent, go home to their families in one piece hopefully and be able to enjoy a productive life. So, every day these standards that the state adopts are very important to us, that it saves lives. (Lou Walter, IBEW 77)</p>	
<p>The important thing is for whatever reason we've developed rules that probably exceed or are better than what OSHA requires. And there's a perfect reason for that, because there are a lot of other different conditions that we see out in this part of the country that other areas don't experience. But, regardless, it's very important for us to understand that these rules were instigated first by workers bringing it to the legislature to giving continuing testimony to the participants of how the administrative codes are dealt with. And we've had a great partnership with the Department of Labor and Industries, with the labor workforces, IBEW Locals, and with employers. And I think it manifests itself today, what's being brought before you now, others will speak more directly to that than I will, that we work cooperatively as a partnership, and we work at the best consensus rulemaking we can. And what's before you today is that. I just can tell you how highly supportive I am of that process. I wanted to say, too, that I want to thank the department for the opportunity and the work that they did with regards to helping us get through the process of developing a consensus document. I think it as very helpful. Alan Lundeen, who is not here, I just wanted to indicate that we appreciate the work and effort from him and</p>	<p>Thank you for your comments in support of this rulemaking.</p>

<p>also the director. (Lou Walter, IBEW 77)</p>	
<p>The safety requirements contained in Chapter 296-45 WAC are critical to the lifesaving -- life safety of our members and the many thousands of other individuals throughout the state. I'm present here today to give testimony and comments in support of the proposal issued by the department through the code reviser of WSR 16-01-029 regarding helicopter operations and WSR 16-01-030 regarding federal OSHA requirement changes and a small number of state initiated changes. IBEW Local 77 is adamantly opposed to any modification to the Washington State 296-45 WAC that would in any way, real or perceived, reduce worker protection provided by the current state regulations and the proposed changes. (Lou Walter, IBEW)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>IBEW Local 77 participated in and fully supports the unanimous agreement of the ten member, five members of labor and five management, subcommittee appointed by the Electrical Utility Safety Advisory Committee, EUSAC, on the amendments as proposed to Chapter 296-45 WAC. In addition IBEW Local 77 participated in a separate advisory subcommittee appointed by EUSAC and fully supports all the amendments as proposed for Section 296-45-675 WAC pertaining to rotorcraft and helicopter use for power distribution and transmission line installation and construction and repair. The aforementioned amendments, Chapter 296-45 WAC, represent significant updates and changes including the following: One, host employer contractor information transfer. Two, 100 percent fall protection for poles, towers, and transfers. Three, minimum approach distance, MAD, update. Four, flame resistant arc-rated clothing as personal protective equipment. Five, adding construction to the scope and application of Chapter 296-45 WAC. Six, update and clarification -- clarified definition for qualified electrical employee. Seven, adding additional language on bonding as part of addressing the equipotential zone. Eight, extensive update of rotorcraft helicopter use and safety requirements. In addition there are</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>numerous amendments proposed throughout Chapter 296-45 WAC, which are required with compliance with OSHA requirements. These include definitions and other language amendments as necessary to ensure that workplace safety standards enforced by the Department of Labor and Industries meets or exceed those federal requirements. The proposed amendments have been carefully constructed and vetted by the electrical utility industry of Washington state for more than a year of work with the EUSAC and its labor and management advisory assistance. Following the public hearing process, we believe it is essential that if the department believes additional amendments or changes to the proposed amendments should be made that any such change shall be further subjected to the review and advice of the EUSAC subcommittee on this subject prior to any finalization of rules adopted. Any and all proposals for changes that would have an effect on reducing, eliminating, or weakening either the existing safety rules or proposed amendments by the existing rules are adamantly opposed by IBEW Local 77. Let us not forget the workers who have died or became seriously injured in the generation, transmission, distribution of electrical energy. Our collective responsibility is that the department is to consistently seek to improve worker protection. Please adopt the proposed amendments as written and help the electrical utility industry and all those who work within the scope of Chapter 296-45 WAC to achieve a safer workplace. (Lou Walter, IBEW 77)</p>	
<p>And the final thing I wanted to say is we trained all our people, through our apprenticeship programs, through our on-the-job trainings with our employers that they perform under these standards. So, this is very important that we maintain what we have in the state of Washington. (Lou Walter, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>I also worked on the helicopter committee, advisory committee, to the Department, and also worked on the committee, advisory committee, for the Chapter 45 update through the EUSAC organization, which is the</p>	<p>Thank you for your comments in support of this rulemaking.</p>

<p>Electrical Utility Safety Advisory Committee, or EUSAC, which established a subcommittee often called Small Committee, of 10 members. Those 10 were five labor and five employer representatives. That group, a body of 10, unanimously voted to support the Chapter 45 updated rules as published by L & I. (Steve Cant, IBEW 77)</p>	
<p>Just to be clear, these rules are adopted under the WISHA law, the Washington Industrial Safety and Health Act, 1973. These rules are the minimum to protect workers in the state of Washington. Employers are encouraged to have safety policies that exceed these rules, and workers are encouraged to follow those policies and whatever rules are adopted into the state standards. Workers take the risk. Workers face the hazards. Workers are the people who are injured from minor to serious to fatality. Workers are the expected body that will be protected by these rules. So, let's always keep that in mind. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>Specifically, I want to say we support as part of the unanimous group of 10, the host employer and contractor information transfer; fall protection to be 100 percent for poles and towers and transfers; minimum approach distance, or MAD, primarily affecting higher voltages; flame and electric arc hazards, with flame resistant arc-rated clothing. These are requirements that have come across in Federal OSHA and for which the State must adopt to be at least as effective as the federal requirements. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>We had a labor and management committee advising the department and this is the result of numerous meetings and discussions between the industry and the department. So, we fully support the adoption of that portion of your proposal. In conclusion, as a member of the EUSAC committee that worked with the department, I support the unanimous decision of the committee to adopt, as written, the published proposal for both the helicopter safety requirement and also the main update to the electrical rules in Chapter 45. Additionally, I will provide the court reporter signatures of more than 30 members of our organization in</p>	<p>Thank you for your comments in support of this rulemaking.</p>

<p>support of the adoption of these rules. And I might mention that our organization, Local 77, represents more than 7,000 members in this state, many of whom are at risk each and every day, putting their life on the line, supply, generate, transmit and distribute electrical voltage so the citizens of this state can enjoy the benefits of a good electrical distribution and that are places of employment who employ millions of employees of this state, have the energy required to run their operation. (Steve Cant, IBEW 77)</p>	
<p>I will tell you right now, our scope of work changes almost daily. And in the short amount of time that I've been in the trade, I've seen the work change exponentially. So, being a part of making the changes that we're trying to make and trying to keep the laws up-to-date with the type of work that we're doing is very, very important. You know, I am kind of at a loss for words. But I will tell you that this does affect us immensely. We worked extremely hard for the past year to make sure that this is and was a collaborative agreement between employees, employers. At no point in time did we necessarily waver when we came to the conclusion with this. So, I would like to see this fully go into effect. And like Steve's got right here, the Petition in Support for the Proposed Changes to WAC 45. I received another 47 signatures just from the Eastern Washington area. I know there's plenty more out there, in the short amount of time that we're all learning these new rules, these new regulations that are coming down. And as IBEW 77 members, we are in full support to make sure that WAC 45 stays, keeps myself safe, keeps me going home to my family, along with other families. (Justin Bean, IBEW 77, Avista)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I wanted to thank all the parties involved in this rewrite and rulemaking. It's been some time coming. And it was obviously something very dear to people's hearts. I think the group went into this effort with the intentions that work should have been, what are we doing to protect the employees? (Ron Franklin, Chelan PUD)</p>	<p>Thank you for your comments in support of this rulemaking. Yes, we agree that this rulemaking will raise awareness of these rule requirements and protect employees.</p>

I am a journeyman power lineman. I work under the guidance of our WAC 45. As a lineman I work for and with fellow linemen who are strongly in favor of the WAC and the adopted WAC changes. There is a long road to becoming a journeyman lineman. As a utility lineman you go through a 6,000 hour or 3 year apprenticeship. As a construction lineman it's 7,000 and up. The program is very intensive, and drills the importance of safety and watching over your fellow worker. From the time an apprentice is indentured we are taught to look through our green WAC book. That little green book rides with us from day one and usually finds a spot in our lunch boxes. In line work being unsafe is not an option. If someone doesn't respect safety they usually wind up crippled or killed, with the flash of a light. Being a journeyman I have witnessed more than my share of accidents, and or been part of. The WAC rules and or guidelines make sure we follow rules from fall protection, to what one journeyman can do by himself, and when it's time to call in a fellow worker. It covers FR clothing to try and minimize our stay at a burn unit should someone experience a big arc or fire. I personally have cut out which is term for falling from a power pole. I fell, actually slid around 25 feet to the ground and tore flesh off my hand and my clothes were ripped up. Since I have come through we are adopting rules and belts that make it really hard to fall more than a couple of feet. I was working right next to a fellow lineman whose belt was not clipped properly. This lineman's belt gave away when he leaned back, in which the lineman tumbled and bounced off the steel tower on the way to the ground falling around 70 feet stopping just short of the ground. His body will never be the same and he is lucky to be alive. I have seen chainsaw accidents where saws have ripped through flesh and tendons. These are very graphic examples of what goes on in an everyday environment in the line industry. All which were not on the same crews of people. As linemen our WAC is a set of guidelines to protect me and the rest of the linemen out there. In our industry it's not

Thank you for your comments in support of this rulemaking.

<p>about getting by with less man force to do a job it's about making sure our work family gets home safe and alive. I strongly support the WAC and look forward to using it for years to come, and any changes to keep my family and I alive at the end of the day or night. Thank you for your time. (Bryce Aust, Pacific County PUD)</p>	
<p>We are committed to safety and supporting language to improve safety in our industry. We support the proposed changes to Chapter 296-45 WAC, as outlined in the Department of Labor and Industries published proposals taken to public hearings. We would like to recognize the members from the Joint Labor and Management EUSAC Committee, who unanimously support the proposed changes, for their hard work and dedication to safety. We appreciate their ability to stay focused on getting us compliant with the new OSHA requirements and updating the WAC accordingly. The Washington State Safety Standards for Electrical Workers Chapter 296-45 WAC has a long history and tradition of keeping our electrical workers safe. These proposed changes will assure that the tradition conditions. (Grays Harbor PUD)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I have been a member of the IBEW Local 77 safety committee and the accident investigation team for several years. I have served as the chair and the recorder for the Electrical Utility Safety Advisory Committee, known as EUSAC. And I also am one of the members on a small committee delegated to work with the Department of Safety and Health to update Chapter 45. I support the proposed document in its entirety that was jointly produced between the electrical employers, the labor representatives, and the Department of Safety and Health. I believe these changes are as effective as OSHA and will improve worker safety here in Washington state. A great deal of time and effort was given to this update project by all members of the committee and the Department of Safety and Health. Together we have produced a document that maintains the safety standards that the Washington electrical workers are accustomed to. I would not be in support of any</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>reduction, substitution, or dilution of any Washington Administrative Codes that jeopardize the electrical workers' safety here in my home state. I have no interest in replacing Chapter 45 with OSHA 1910.269. I feel Washington state has a long history of leading the nation in electrical safety that dates back prior to OSHA. To reduce our workers' safety standards would not be in the best interest of our workers, the citizens of this great state, the rate payers, or the public and private employers here in Washington state. (Damian Hernandez, IBEW 77, Lewis County)</p>	
<p>I'm a 25-year construction line worker. I'm here today regarding the electrical workers safety and health rulemaking for Chapter 296-45 WAC. I wholeheartedly support the proposed changes outlined in this mutually agreed upon changes supported by the Electrical Utility Safety Advisory Committee. This committee has years of cooperation working together to better the safety standards in our state. I have worked all over this country, over 15 states. I can testify that Washington state has some of the highest safety standards I have been involved with. In the public hearing phase of this procedure, I understand that all comments need to be addressed. I hope that you are given the latitude to give more weight to comments made by someone who does this work, whose primary job is to make sure that everyone comes home safely compared to someone that sits behind a desk, and whose primary priority may be to a bottom line rather than the safety, someone that looks at safety watch as a manpower rather than a set of eyes whose sole job is safety. I don't understand how anyone can think that less safety standards will equate to a safer workplace. Our state has been on the leading edge for safety standards since leaders of this industry decided a long time ago that killing 50 percent of the workforce was not the way to grow an industry. Why would anyone claiming that safety was their goal want to change such an industry leading safety program? I can testify that these safety rules have saved my life. And I will end this</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>letter with a quote from our great state's Constitution. Section 35. "Protection of the employees. The legislature shall pass necessary laws for protection of persons working in mines, factories, and other employments dangerous to life or deleterious to health and fix pains and penalties for the enforcement of the same." (Mike Webber, IBEW 77)</p>	
<p>I admire the process here. Of course that Mr. Lou Brooks did -- had the audacity to create legislation surrounding the safety of individuals employed in my craft. He was blackballed for his efforts. He lost his job and was forced to relocate several states away before he could find employment in the industry again. So this process is long and challenging as it may have been, as is a beautiful process. And I think we all need to admire the process because safety is a fight well worth waging. (Brady Hansen, IBEW, Avista)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I love all the work that has gone into developing these rules. The beautiful thing about it, of course, is that these rules are read and discussed and at times debated. But these rules to me are special because I don't have to refer to them as the rules. I don't have to call them their rules. I can proudly say that these are our rules, that they've been developed in committees with consensus. And people have come together across different corners of the industry to make what we feel are the best rules in the industry. People have talked a lot about the historicity of safety rules in the industry. I think the watershed event for our industry happened with electrocution of John Peakes in the 1880s because it played out in the public sphere, people began to seriously debate what the function of safety and electrical power would be. And it was decided upon then by the leaders of companies, by labor leaders, by the people doing the work that the most important thing we would ever do in this business is ensure that we kept people safe. Thank you for the efforts and the zeal with which these rules have been modified and improved and will continue to protect workers to come. And thank</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>you for these hearings and giving us the opportunities, as people who do the work, to share our insights and our comments and to really appreciate how rules like this come into place. (Brady Hansen, IBEW, Avista)</p>	
<p>I represent IBEW Local 125 on the EUSAC committee and the EUSAC small committee. I want to thank DOSH and L&I for the format that they use for going over the revisions here where you got people, labor people, management, and DOSH representatives. I think this is a better format than what Oregon is currently using. Local 125 has roughly 3400 members, most of which are in Oregon. We have a small contingency up here in Washington. In Washington we represent Transalta Generation, Clark PUD, Skamania PUD, and Klickitat PUD. I think that's all of them. We also have NECA contractors that work in Oregon also and come over here and work in Washington. What you have in front of you today is a document that's a work of thousands of man hours with everybody involved whether it would be in the meetings we had together or independently or work we did on our own in our offices. I'm just here to support the document that we've put together for consideration today as the adoption for the WAC 296-45 revision, and it's a document of give-and-take just like everything. Neither party got everything they thought that would be perfect, whether it be Labor and Industries or DOSH. But what we put together is a document that we all agreed to move forward, a new document for WAC 45 and the best that we can do. (Jake Carter, IBEW 125)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I'd like to thank those who have committed their time and efforts in the development in the consensus rules draft. The high voltage industry here in Washington state has a long history of labor, management, and the Department of Labor and Industries working together through EUSAC to promote a safe workplace. The EUSAC small community worked diligently to develop the draft consensus rules we are discussing today. Their efforts should be recognized as an example of what</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>committee people can do to promote safety in all our workplaces. Tacoma Power supports the consensus rules as presented. We believe these rule changes will help to reduce workplace injuries. (Jim Boyd, Tacoma Power)</p>	
<p>Tacoma Power suggests the Department of Labor and Industries provide assistance to our industry in training on the final rule as adopted. This assistance could be in the form of training and presentation materials to assist in a consistent understanding and application of the new rules. (Jim Boyd, Tacoma Power)</p>	<p>Thank you for your comments.</p> <p>Yes we agree that training and assistance materials would be useful in providing consistent understanding and application of the new rules.</p> <p>The department will continue to work with the EUSAC committee to identify needed clarification and training materials that support the industry in the application of this rule.</p>
<p>I am the safety environmental manager for Mason County PUD 3, journeyman lineman, also a member of the small committee representing PUDs across the state. PUD managers support the changes in WAC 45 needed to align with OSHA, also the changes that have been proposed to 296-45-675 Rotorcraft/Helicopter. (Bob Smith, Mason County PUD)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>Another concern the managers had raised when I met with them is the history of interpretation of 45 over the years. The same wording has been interpreted in different ways. But what OSHA did with 1910.269 was publish a complete document that included the preamble to explain each rule along with the history and meaning to understand how to comply with each rule. The small committee brought it up during our meeting with Joel Sacks and Anne Soiza on November 5th. And at that time it was suggested that L&I complete a -- compile all documentations of interpretation and citations as a public document. It was also suggested that L&I work with stakeholders to create a document similar to the preamble of 1910.269 (sic). My question is how will L&I make 45</p>	<p>Thank you for your comments.</p> <p>OSHA's preamble to CFR 1910.126 Electrical Power Generation, Transmission and Distribution and their letters of interpretation are applicable to Chapter 296-45 WAC where the requirements are identical.</p> <p>Additionally, any issues that are identified in the future as lacking in clarity the department will work with the EUSAC to either clarify in rulemaking or issue an interpretation.</p>

<p>as transparent as possible so it is easier to understand in the future? (Bob Smith, Mason County PUD)</p>	
<p>I'm a journeyman lineman. I've done that trade since 1974, broke out as a grunt then, and worked on tree crews, line crews. Got my apprenticeship in '76 and worked in the trade ever since. I'm honored to be a part of the IBEW and president Local 77. I'm the inheritor of the legacy of Lou Brooks, who at a time when 50 percent of the men in the trade died just making a living, he changed things. He wrote the first electrical safety laws in the country. That was back in our international office in Washington, D.C., and saw a history display of them written as the first safety laws for high voltage electrical work in the United States. He was hounded out of the northwest and couldn't get work here and ended up in other parts of the country making his living. We don't live under those circumstances anymore, but we don't wish to either. We've taken every action feasible through EUSAC and our safety committees to make sure that that stays the way it is. I support the proposed changes to WAC 45 and helicopter rules proposed by the EUSAC small committee. (Rick Johnson, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I am the senior safety compliance consultant with Pacific Power based out of Portland, Oregon. I have worked for Pacific Power for the last 35 years in many facets of the business, with 30 years active involvement in safety, 25 years as a full-time safety professional. Pacific Power is a PacifiCorp company. PacifiCorp has 5,900 employees serving 1,783,000 customers in six states and services territory that encompasses 143,000 square miles. First, I would like to say thank you for the opportunity to speak today. I speak in support of the language as presented. As a member of the small committee that is responsible for the work that has culminated in this hearing of proposed rule changes to the WAC 45 code, I want to acknowledge all of the work that was done by with the state employees, labor representatives, and employee representatives. This was no small task. As you have heard in previous testimony,</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>significant effort, time, and passion went into the language that you have before you. As you have also heard no one got everything they were hoping to achieve but the language represents mutually agreed upon rules that hopefully will result in fewer worker injuries. (Steve Harkin, Pacific Power)</p>	
<p>You also heard in previous testimony about the passion and commitment of labor representatives who petitioned for work rules to protect the workers going back a hundred years. Let us not fail to recognize the companies, such as, Pacific Power, who also came into existence over a hundred years ago. These companies, with their vision and investments, began to provide both commodity as well as employment to those in labor and have continued to serve the communities and the states. The relationship of labor, the employers, and the regulators, as we are now, once these rules are enacted, the real work must begin. The task is mutually shared by all three parties to educate the leaders, the workers, and the regulators about the -- in interest of the rule because it is only with understanding that we can succeed in reducing workplace incidents, injuries, and fatalities. Will we stumble? Yes. But together we can persevere. (Steve Harkin, Pacific Power)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>I would like to address the WAC changes and to voice my concern over the stakeholders (i.e., utility companies, both municipal, private and companies doing service work). I am greatly concerned about recent talks to remove our WAC state rules which are more stringent than OSHA. As a journeyman union relay tech, I depend on those more stringent rules to keep myself and my co-workers safe. The WAC 45 rules allow me to have the safety protection I need and the flexibility to do my work safely. I have read that the stakeholders reasoning to move to OSHA instead of keeping our current WAC 45-296 rules, the stakeholders say that the rules do not work and that our accident rates are going up. I feel that is an utter lie. The reason the accident rate is</p>	<p>Thank you for your comments.</p> <p>Chapter 296-45 WAC has been updated to clarify some aspects of the rule in partnership with members of the industry. In addition some changes were made to incorporate new OSHA requirements and industry standard changes from the NESC. There are no plans to remove Chapter 296-45 WAC and replace with OSHA's 1910.269.</p> <p>Your comment regarding accident rates, violations and wages is outside the scope of this rulemaking. It is the department's</p>

<p>going up is that the stakeholders are not investing in safety training, new apprentices, safety personnel, and understanding the WAC 296-45 rules and are not willing to train their workforce on the WAC 296-45 rules. One of the most glaring problems is that the Washington State Dept. of LNI will not aggressively pursue and defend safety violations. The Washington State Dept. of LNI will not staff or pay their inspectors enough money to attract competent personnel and if by chance they have a very qualified inspector they will shackle him and not defend his citation. Most linemen and high voltage electricians make between \$75,000 - \$300,000 annually and if Washington state will only pay subpar wages, you will not have the experience to inspect and mediate violations correctly. (Mike Kizer, Seattle City Light)</p>	<p>intent to reduce hazards in this and all industries as well. We hire qualified inspectors who are trained to identify hazards and issue appropriate citations.</p>
<p>I would like to start off saying that I am a journeyman lineman. I've worked in various locations throughout the United States. I've worked under OSHA 1910.269 and its policy and regulations. I've also worked on various properties as far as mining and having to work and follow regulations with Mine Safety and Health Administration (MSHA). And, then, when I moved to Washington state I was familiarized with the WAC 45. And one of my comments would be that I am in full support of the WAC 45. And if I were asked to choose between the documents, I would choose WAC 45. And Why? Because it's safer. (Mike Brown, Avista, IBEW)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>Avista Corporation is in full support of where the Chapter 45 is along with the helicopter rules. We know that the labor management group worked very hard on this. Some of the requirements in Chapter 45 go above and beyond where OSHA has and doesn't even cover; we believe Chapter 45 provides additional protection for our employees in the state. (Kirk Hayfield, Avista)</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>
<p>I am a 25 year journeyman lineman. I've worked in several states, including Washington, Oregon, Idaho, Montana, California, Alaska, New York, New Jersey, and Pennsylvania. And in my travels, these safety</p>	<p>Thank you for your comments. There are many opportunities for your voice to be heard. The</p>

<p>working rules, be it OSHA or state supplemental rules, WAC 45 is probably the most comprehensive and safe rules that, I believe, are in the United States in my experience. And I'm in full support of maintaining and retaining WAC 45 as well as the proposed changes. I'm here testifying on behalf of myself, on my own time. And the reason being is, these rules should not be in a green book. They should be in a red book because everything in there was written due to either a fatality or a very catastrophic life-changing event due to an accident. The partnership we have through EUSAC, I believe should be expanded. Its involving labor, management, and government. It doesn't get any better than that. It's all about communication, and it's a wonderful thing the state has done. And I hope that they continue to do that moving forward in the future for future craftsmen. I would like to add that we would have several more craftsmen involved in these comments if we would have held these meetings at a time that was after work and was convenient for them. So in the future, if you would possibly schedule some meetings for the people that are the workers that this is to protect, so they would have the opportunity also to come in and testify. What we have moving forward with WAC 45 is a model for the United States. (Rick Luiten, Journeyman)</p>	<p>committee members who updated this rule included both labor and management representatives. Additionally, public hearing comments can be submitted in writing as well as through attendance. In the future we will evaluate the need for an evening public hearing to accommodate those who may wish to attend.</p>
<p>I've been an IBEW journeyman lineman for 18 years. I'm actually here on behalf of the linemen at Avista because we also support the WAC and the more stringent rules then OSHA's. If this meeting would have been held in the evening there wouldn't be enough room in this room for all of the linemen that would have shown up on behalf of the WAC. (Brian Dollar, Avista, IBEW)</p>	<p>Thank you for your comments.</p> <p>There are many opportunities for your voice to be heard. The committee members who updated this rule included both labor and management representatives. Additionally, public hearing comments can be submitted in writing as well as through attendance. In the future we will evaluate the need for an evening public hearing to accommodate those who may wish to attend.</p>
<p>The National Electric Safety Code (NESC) states that the utility has to maintain control of all electrical supply lines. Are unqualified, non-</p>	<p>Thank you for your comments.</p>

<p>employees allowed to make modifications or changes to the utility supply lines? An example would be someone taking an outage at the weather head. So disconnecting the weather head so they can make repairs on the tier base. And then temporarily hooking that weather head back up and energizing it. As a utility, we come back later to check the connections and later make our own permanent ones. I feel that that's a huge safety concern having people on roofs working on 240 volts and a line that's not fused, it's just a direct transformer who can see that person and can unload it. I feel this is something that needs to be addressed. (Brian Dollar, Avista, IBEW)</p>	<p>There were no changes made to this specific section and is therefore outside the scope of this rulemaking. The final language in the rule was developed by the department and both business and labor, represented by the EUSAC subcommittee who reached consensus on all new requirements outside of OSHA and all updates to existing language. However, the possibility of a hazard alert to address this issue with a formal distribution to the industry through EUSAC is being discussed.</p>
<p>A point of clarification on electrical utility supply lines, a point of differentiation between the National Electrical Safety Code and the national electrical code is the point of contact or the connection between the masthead or the grip loop and the supply line. Employer's utilities are controlled at up to that point; employers have no control after that point. I think in talking with other employers that, yes, there's maybe some issues out there with electricians working on that stuff. But we have no to monitor whatever they're doing on the homeowner side or the business side. Those points, yes, they should have qualified, certified people working on those. The employers, utility employers, we cannot qualify or certify employees of another company per WAC 45. We can only qualify our own employees. And I think that differentiation between what that control point is, whether they're working on the homeowner side or the utility side, is critical. And that is clearly lined out in the national electric safety code, either on an overhead supply line, at the connection point outside the weather head, or the underground at the side of the meter. (K.C. Dors, Columbia REA)</p>	<p>Thank you for your comments.</p>
<p>On the surface, the proposed document seems to clarify safety provisions, but to more narrowly interpret those safety provisions. With "Safety Standards for Electrical Workers" being stricken from the heading and "Electric Power Generation, Transmission, and Distribution"</p>	<p>Thank you for your comments.</p> <p>The change in the title of the rule is now identical to OSHA's CFR 1910.269 and clarifies the industry to which the rule</p>

<p>being added, it seems that the intent of the changes was to more narrowly interpret the safety provisions that are interpreted more broadly by a wider group of employers and employees in the current version of the WAC 45. (Shane Hale, Commenter)</p>	<p>applies.</p>
<p>WAC 296-45-005 Electrical workers safety rules – Foreword.</p>	
<p>This section of the WAC is often overlooked but possibly the most valuable and is not found in OSHA 1910.269. The purpose of this chapter is to make the workplace electrical employees as free from recognized hazards as reasonably possible. Following these rules may sometimes require that employee safety receive a higher priority than speed and work performance. These rules exist to provide the employee safety. So employees are expected in good faith to follow the provisions of this chapter. The chapter isn't intended to be a complete job description, nor is it expected that the chapter cover every hazard that an employee may encounter. When hazards exists that aren't covered by this chapter, the lead worker and employees are expected in good faith to mutually discuss the hazard and agree on how to perform the work to the greatest degree of safety. The department of Labor and Industries is the sole and paramount administrative agency responsible for the administration and interpretation of the chapter of Washington Industrial Safety and Health Act of 1973. These exists a question as to the meaning of any provision of this chapter, such questions must first be directed to the Department of L&I and its authorized representatives. Experience has proven that the majority of the injuries and deaths are preventable. Most injuries and deaths aren't due to defective equipment, but are due to the failure in part of the employees and those in positions of authority to observe safety rules and failure to use safety devices. In the last analysis of this chapter is a compilation of experience and common sense. Electrical safety requires that the work be properly planned, executed by the use of good judgment, and under the direction of intelligent supervision. In closing, I am here today</p>	<p>Thank you for your comments in support of this rulemaking and the entire rulemaking process.</p>

<p>providing this public comment in memory of Brother Jacob Booth, IBEW apprentice lineman. (Damian Hernandez, Local 77, Lewis County)</p>	
<p>WAC 296-45-015 Scope and application.</p>	
<p>Our committee proposed some additional changes. Adding construction to the scope and application of Chapter 45. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>We believe that work that is legally performed under the existing rules can, within the scope and application of the rules of the new proposal, be performed. Ultimately, the Department will determine the application of the rule. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comments in support of this rulemaking.</p>
<p>WAC 296-45-067 (information transfer) and WAC 296-325(13) (protection from flames and arcs) – I believe both of these codes apply to line clearance tree trimmers and should be included in WAC 296-45-015(1)(e). The condition of the electrical system is relevant information necessary for line clearance tree trimming operations. Line clearance tree trimmers are potentially exposed to flames and arc hazards. (Damian Hernandez, IBEW 77, Lewis County)</p>	<p>Thank you for your comments.</p> <p>WAC 296-45- 067 Information Transfer and WAC 296-45-325(13) Protection from Flames and Electric Arcs are already included. The Scope and Application in WAC 296-45-015(1)(e) (i) states that this chapter except WAC 296-45-455 applies to line-clearance tree-trimming operations performed by qualified electrical employees.</p>
<p>I have a concern about tree trimmers working near energized lines. I feel there needs to be some more stringent working rules around them wearing FR clothing. One of the worst flashes I've experienced in my career was simply removing a tree limb off a single-phase 13.2 KV line. Because of a windstorm, the line was de-energized. A live wire was down and we went and made our repairs. And when we went to re-energize that single-phase line about a span away, we noticed a branch we had missed that was hanging there on the line and starting to arc. So we went over and set up our bucket truck to move that tree branch off of the line. There was a green tree branch near the arcing. When we went up to remove it, right as we got up very close to it, that's when it actually went to ground. And so it was 76-20 to ground right in our faces. It's not something someone wants to be around. This is just one</p>	<p>Thank you for your comments.</p> <p>New OSHA language added to WAC 296-45-325(13) addresses arc flash assessment and requirements for PPE (FR clothing) for line clearance tree trimmers.</p>

<p>example why tree trimmers need to have FR clothing when they're trimming and treeing and cutting lines. Anything could happen if they get caught on a tree branch and it falls on the line, and then they could have a very large flash. (Brian Dollar, Avista, IBEW)</p>	
<p>WAC 296-45-035 Definitions.</p>	
<p>The modification of qualified electrical employee. This definition has both been modified by some changes from OSHA and as well as by our committee. We fully support the adoption of that definition. And I might comment that it's important to note that for at least three definitions, qualified electrical employee, designated employee, and line clearance tree trimmer under Section 035, that those definitions must be applied and utilized in conjunction with the training requirements as laid out in Section 065. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comments fully supporting the change to this definition.</p>
<p>I wanted to just give a brief supplementary comment to my testimony from Wenatchee, Washington. And specifically on the topic of the definition of qualified electrical employee, which has had incorporated into it some changes directly from federal OSHA, which are mandatory, and some additional language as result of the labor management committee work from EUSAC with the department DOSH group. And that is that as I think the definition is clear, and in addition can't just be used to operate the chapter, you have to use it in conjunction with Chapter 45 as a whole; in other words, you have to couple this with Section 065 training. In the training section, there is language regarding what a qualified electrical employee needs to have, as well as other specifically defined classifications; for example, tree clearance trimmer. So in using the definitions and the requirements of the chapter itself with respect to what you need to have for training to meet that definition, I believe that it's clear that work that could be legally done in the current chapter and continued to be legally done in the -- with these proposals and that no disruption to work should be had. But the main point I want to make is you have to utilize Chapter 45 as a whole in the</p>	<p>Thank you for your comments fully supporting the change to this definition.</p>

<p>scope and its application. And in particular for the individual designations called out, such as qualified electrical employee, you must meet all of the requirements of the training section. (Steve Cant, IBEW)</p>	
<p>One part that I would like to point out is the application of some of the rule changes, the alteration. And one of that is the interpretation, the application of the qualified electrical employee. We hope that that is continued to be interpreted and applied as L & I intended with what historically has been as we see as a benefit to all parties involved. We know that this electrical has been added to that, and we recognize that the document in total, how it's applied, and we want to make sure that that is consistent with what previous language would be. And as I said, to the benefit of everybody involved. (Ron Franklin, Chelan PUD)</p>	<p>Thank you for your comments.</p>
<p>My job is to ensure the safety of all of our workers and compliance with OSHA. And I appreciate the statutory guidance we received in making sure our employees are safe. So, I especially appreciate clarity in that guidance. And my concern today is, what was mentioned, the change of qualified workers to qualified employees or qualified electrical employees, it is actually making things less clear. Especially not just where the language previously said qualified worker or qualified employee, but also where it says line worker. So, we've been told that this change does not change the meaning. I feel a little hesitant about that because the way legal interpretation works, that if that has been a change, there must be a reason for the change, there must be a change in the meaning. So, I don't feel like this particular change clarifies anything or makes workers any safer than they were before. (Lorna Klemanski, Chelan PUD)</p>	<p>Thank you for your comment.</p> <p>The term “qualified electrical employee” was changed from “qualified employee or person” to better define the worker who is qualified to do the electrical work outlined in chapter 296-45 WAC. Some established OSHA language was incorporated into the existing definition and one additional note. The employer will determine if a worker is a “qualified electrical employee” based on the worker’s training and experience. An interpretation of the definition of a “qualified electrical employee” dated November 10, 2015 is also available from the department.</p> <p>There are also particular tasks that employees can be deemed qualified to perform but not as a “qualified electrical employee”. The designated employee provides for these other employees who are not “qualified electrical employees”. The designated employee definition in WAC 296-45-035 states “A person who is designated by the employer to perform specific</p>

	<p>duties under the terms of this chapter and who is knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job”.</p>
<p>Qualified electrical employee. A person who is familiar and knowledgeable in the construction and operation of the electric power generation, transmission, and distribution equipment involved, and such lines and equipment that concerns his or her position who is fully aware of the hazards connected within, or one who has passed the journeyman status examination for the particular branch of that electrical trade., which he or she is connected. Note: An employee having the experience and training comparable to a journeyman level would be considered a qualified electrical employee. A considerable amount of time was given to this particular definition. The purpose was to better define the worker who is qualified to do the electrical work. We incorporated some established OSHA language into our existing WAC definition. We also added one additional note, a few bullet points: No. 1, it is the employer’s responsibility to confirm all training requirements within WAC 296-45-065 have been met before employees are deemed qualified electrical workers. No. 2, there are updates and changes to WAC 296-45-065 that need to be reviewed and considered. No.3, the purpose of this note was not to dilute, circumvent our electrical industries proven, established, and industry recognized apprenticeship programs. Our apprenticeship programs are built jointly between the employers and laborers, most are recognized by the state of Washington. These programs have given thousands of trade professionals the skills and training they need to return home to their families safely on a daily basis. No 4, our committee recognized there</p>	<p>Thank you for your comments fully supporting the change to this definition.</p>

<p>are particular tasks that employees can be deemed qualified to perform. The designated employee definition found in WAC 296-45-035 allows for such work to be accomplished. (Damian Hernandez, IBEW 77, Lewis County)</p>	
<p>Tacoma Power requests that the department's longstanding application of the qualified worker definition be applied to the qualified electrical worker language in the consensus rule draft. (Jim Boyd, Tacoma Power)</p>	<p>Thank you for your comment fully supporting the change to this definition.</p>
<p>I met with the PUD managers for their consideration of enhanced option 2 that was proposed by Alan Lundeen during a meeting on May 5th with the small committee. On May 15th they authorized me to sign with some reservations. The first concern was the change from qualified person or qualified employee to qualified electrical employee. Their thought was that this change could have an impact on how employers could qualify their workforce and limit the ability to train and utilize the workforce. The series of correspondence starting in August of 2015 between L&I high voltage compliance and a PUD highlighted the need to remove the change or at least have a clear definition and interpretation. The EUSAC ten member small committee asked for a meeting with L&I Director Joel Sacks. On November 5, 2015, the small committee met with Joel Sacks and Anne Soiza. As the representative group of stakeholders, we asked for a complete definition and interpretation of the change. The letter from Anne Soiza dated November 10th gives a clear definition of qualified electrical employee. And page 2 dated November 9th is a clear interpretation that we can work with. As you heard from two Chelan PUD employees at the public hearing in Wenatchee, there is still some thought that the change wasn't needed. As long as the interpretation of qualified electrical employee from Anne Soiza, assistant director of L&I, dated November 9th and 10th can stand as written, we can live with it. (Bob Smith, Mason County PUD)</p>	<p>Thank you for your comments fully supporting the change to this definition.</p>
<p>We are a public utility district located along the Columbia River in central Washington state. A municipal corporation authorized under</p>	<p>Thank you for your comments.</p>

Title 54 of the Revised Code of Washington State, Chelan PUD is owned by its customers and governed by a locally-elected Board of Commissioners. Our utility has a long history of providing reliable, low cost power to our customers-owners. One of our core values is safety, which we view as essential to our overall success as a consumer-owned utility. We generate and deliver power safely and in full compliance with applicable safety regulations. Our commitment to safety means that we closely monitor L&I's rule changes that could affect our employees and operations. We believe WAC 45 has served all parties well in protecting electrical workers in the state of Washington. Further, we recognize that L&I is updating WAC 45 to align with OSHA's modifications to changes to 29 CFR 1910 and 1926 Subpart V. In advance of aligning these regulations, L&I asked the Electrical Utility Safety Advisory Committee (EUSAC) to initiate a small workgroup to collaboratively revise, refine and agree upon changes to the work rules governing power generation, transmission, and distribution in Washington State. This work group, which included representation from labor and management, identified the proposed change (throughout the WAC) from the term "Qualified Employee" to "Qualified Electrical Employee" as a potential area of concern. After discussion, all parties in the group agreed that employers are, and should be, the entity that determines qualifications for their Qualified Electrical Employees, as long as they can support and demonstrate the education, training and experience necessary to perform the various levels of tasks assigned to the identified employee. On November 10, 2015, Anne F. Soiza, Assistant Director of L&I, wrote to the Chairman, Mr. Damian Hernandez, of the EUSAC. Her letter confirmed that the department "interprets this definition [in the proposed rule] to mean that the employer will determine if a worker is a 'qualified electrical employee' based on the worker's training and experience." Chelan PUD agrees that the employer should determine if the worker is qualified based on the worker's training and experience.

The purpose of the new definition of "qualified electrical employee" was to better define the worker who is qualified to do the electrical work outlined in chapter 296-45 WAC. An interpretation of the definition of a "qualified electrical employee" dated November 10, 2015 is available from the department. In this letter it states that the ""employer will determine if a worker is a "qualified electrical employee" based on the worker's training and experience"".

There are also particular tasks that employees can be deemed qualified to perform but not as a "qualified electrical employee". The designated employee provides for these other employees who are not "qualified electrical employees". The designated employee definition in WAC 296-45-035 states "A person who is designated by the employer to perform specific duties under the terms of this chapter and who is knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job".

<p>However, we do have concerns about changing terms and definitions in the WAC from “qualified employee” to “qualified electrical employee.” If, essentially, the interpretation of the rule will not change, what is the purpose of the new definition? Overall, Chelan PUD believes that the revision from qualified employee to qualified employee to qualified electrical employee may cause confusion in the future, and that if the interpretation of the definition is intended to be the same (as indicated by L&I), then the terms and definitions should be altered. Either the changes should be dropped, or L&I should add a provision to the definition itself clarifying that employers will determine if a worker is a qualified electrical employee based on that worker’s training and experience. (Chelan County PUD)</p>	
<p>Qualified electrical employee. The second bulleted “note” at the bottom of Page 8 of the proposed rule states that “An employee having experience and training comparable to journey level would be considered a qualified electrical employee.” This seems to be contrary to the concept that the employer determines whether a worker is a qualified electrical employee. Depending on the task at hand, journey-level training may or may not be required. (Chelan County PUD)</p>	<p>Thank you for your comments.</p> <p>Regardless of whether or not the employee is journey level, the employer still must make the determination of whether the employee is a qualified “electrical employee”. Please refer to the letter of interpretation issued November 10, 2015. Regarding the employer’s responsibility for determining whether an employee is a “qualified electrical employee” the letter states: “The department interprets this definition to mean that the employer will determine if a worker is a “qualified electrical employee” based on the worker’s training and experience. Since the definition gives options on the training and experience that can be used to consider a worker a “qualified electrical employee” the department also interprets this definition to mean that the employer is responsible for evaluating and verifying the workers training, education and experience to make sure it meets the threshold to consider the worker to be a “qualified electrical employee”.</p>
<p>Qualified worker vs qualified electrical worker. The substantive</p>	<p>Thank you for your comment.</p>

<p>differences between these two definitions are going to be very difficult for employers and workers to understand. For example: In WAC 296-45-035, in the definition for line clearance tree trimmer, Note 2: Line clearance trimmers are not considered qualified electrical workers unless they meet the training requirements of WAC 296-45-065. That tells us if they do meet the training requirements in WAC 296-45-065 they would be considered a qualified electrical worker. As such they can be trained to de-energize, test and ground a circuit. (Mike Roberts, Inland Power and Light)</p>	<p>You are correct. According to the definition of a “line-clearance tree trimmer” they do not have to be a “qualified electrical employee” to perform their job but can be considered one if they meet the training requirements in WAC 296-45-065.</p>
<p>It has been stated many times that “qualified employee” and qualified electrical employee” are synonymous terms. The absence of definitive verbiage of the first term will render the later unenforceable. (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comment.</p> <p>There are also tasks that employees can be qualified to perform but not as a “qualified electrical employee”. The designated employee provides for these other employees who are not “qualified electrical employees”. The designated employee definition in WAC 296-45-035 states: “A person who is designated by the employer to perform specific duties under the terms of this chapter and who is knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job”.</p>
<p>Qualified electrical employee. Under this definition a non-journeyman worker can be trained to perform an electrical task so long as they meet the training requirements of WAC 296-45-065 for that task. This application is going to be very important to many, if not all, electric utility employers. “An employee having experience and training comparable to journeyman level could be considered a qualified electrical worker” – to many of us this means the worker must be</p>	<p>Thank you for your comment.</p> <p>Regardless of whether or not the employee is journey level, the employer still must make the determination of whether the employee is a qualified “electrical employee”. Please refer to the letter of interpretation issued November 10, 2015. Regarding the employer’s responsibility for determining</p>

<p>trained to the extent of the relative journeyman skills pertinent to a specific task. (Mike Roberts, Inland Power and Light)</p>	<p>whether an employee is a “qualified electrical employee” the letter states: “The department interprets this definition to mean that the employer will determine if a worker is a “qualified electrical employee” based on the worker’s training and experience. Since the definition gives options on the training and experience that can be used to consider a worker a “qualified electrical employee” the department also interprets this definition to mean that the employer is responsible for evaluating and verifying the workers training, education and experience to make sure it meets the threshold to consider the worker to be a “qualified electrical employee”.</p>
<p>Meter readers, shut-off reps – historically these classifications were “qualified employees”. That definition no longer exists in WAC 45. What are they now, and under the proposed rule can they continue to perform their work? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>Meter readers and shut-off reps could be considered designated employees by the employer based on the following: The designated employee definition in WAC 296-45-035 states: “A person who is designated by the employer to perform specific duties under the terms of this chapter and who is knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job”.</p>
<p>Engineering and design technicians – historically these classifications were “qualified employees”. That definition no longer exists in WAC 45. What are they now, and under the proposed rule can they continue accessing cabinets having energized cables and equipment? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>Engineering and design technicians could be considered designated employees by the employer based on the following: The designated employee definition in WAC 296-45-035 states: “A person who is designated by the employer to perform specific duties under the terms of this chapter and who is</p>

	<p>knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job”.</p>
<p>Without a definition of journeyman in WAC 296-45-035, how do the employers establish and train the employees to “journeyman level”? This will prove very problematic in the application of “qualified electrical worker”. Journey level workers are specific to IBEW definition. In fact, the IBEW hiring halls issues “white tickets” to workers who have not passed the journeyman exam but have experience and the hall allows them to work on union jobs. Since not all workers are considered journeyman, it appears the rules do not cover them. What safe work rules apply to these workers and to non-union workers who are classified as “linemen?” (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>As long as the employer determines the employee has the training required in WAC 296-45-065 they are considered a “Qualified Electrical Employee” whether or not they are journeyman status.</p>
<p>Designated employee. Pursuant to this definition, can a “designated employee (non-journeyman) be trained to perform electrical tasks, as long as the employer fulfills the training requirements for this task? (Mike Roberts, Inland Power and Light)</p>	<p>Yes.</p>
<p>While most of the associations between the term “qualified employee” and its proposed replacement, “qualified electrical employee” have remained married in the newest proposed WAC changes, some of the associations seem to have been bastardized. The term “qualified employee” seems to be a shell term with no substance within WAC 45. WAC 296-45-905 Appendix C – Methods of inspecting and testing wood poles, Section II refers to “qualified employees” as does WAC 296-45-25510(4) (c) (iii). Within the WAC 45, I see no clear definition of what is leftover as the “qualified employee” and because of the absence of an acknowledged definition, intent and interpretation are unclear. (Shane</p>	<p>Thank you for your comments.</p> <p>The term qualified employee will be changed to “qualified electrical employee” in these 2 sections WAC 296-45-905 Appendix C and WAC 296-45-25510(4) (c) (iii) for consistency.</p>

Hale, Commenter)	
WAC 296-45-065 Training.	
One problem within substation utility electricians is the lack of apprenticeships and the ability of the utilities to hire almost or barely qualified non-utility trained inside electricians and then deems them qualified. There is a huge difference between utility electricians and other electrical craft trades, this needs to be addressed and some stricter type of language needs to be put into the existing WAC 296-45 and hold the employer accountable to train these highly skilled electricians as utility electricians to work in substations. The utilities and companies have hired individuals that do not know how work by the WAC 296-45 rules using clearances; they use the LOTO rules which are for generation not transmission and distribution. (Mike Kizer, Seattle City Light)	<p>Thank you for your comments.</p> <p>This is outside of the scope of the rulemaking. The employer is responsible to ensure that employees are trained for the job they are being hired to do.</p>
WAC 296-45-105 Work required of leadworkers.	
Replacing “lineworkers” with “qualified electrical employees” in this section raises questions about what it means to be a qualified electrical employee. For example, someone interpreting the rule in the future might claim that the “interchangeability” of these terms in this section means that “lineworker” and “qualified electrical employee” are the same for purposes of WAC 296-45. This is not the case, and such interpretation runs counter to L&I’s statement in the November 10, 2015 letter that employers will determine if a worker is a qualified electrical employee. Chelan PUD asks that the term “qualified electrical employee” not be used to replace lineworker in this section. (Chelan County PUD)	<p>Thank you for your comments.</p> <p>Regardless of whether the employee is doing “linework” they must meet the requirements of a “qualified electrical employee”, meaning the lineworker would need to be trained to WAC 296-45-065. The requirement in WAC 296-45-065 (1) states: “Each employee shall be trained and proficient in the safety-related work practices, safety procedures, and other safety requirements in this section that pertain to their respective job assignments”. It goes on to list other areas a “qualified electrical employee” must also be trained and competent in. Therefore, not every “qualified electrical employee” can do linework, but every lineworker must be a “qualified electrical employee”.</p>
Two journeyman linemen working in various situations. It is a safer atmosphere to work in as far as your qualified watch with your brother	Thank you for your comments.

<p>looking out for you. An example; three or four weeks ago a journey lineman working by himself climbed a pole and a situation happened and he fell into the secondary open wire working by himself. And 40 minutes later is when he was able to be rescued off that pole. If there had been a second person there as a qualified watch or even another person on the pole with him along with the crew, maybe he'd still be with us today. It's basically in our best interest to do whatever we need to do to make it safer for us so we can go home every night. (Mike Brown, Avista, IBEW)</p>	
<p>Supervisory requirements are non-explicit. What type of work (i.e. hot work, cold work, conduit work) does it change the interpretation? Does work type impact the interpretation? Supervisory duties can be defined as simply organizing and planning the work, it may or may not include safety observer duties? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>There were no changes to the rule regarding supervisory requirements. WAC 296-45-055(5) states in part "The employer shall appoint only competent workers to supervise other employees" Also see the training requirements for each employee in WAC 296-45-065.</p>
<p>WAC 296-45-175 Hazardous energy control (lockout/tag out) procedures.</p>	
<p>One of the questions I have is concerning section 175 with lockout/tag out and clearances between generations all the way down to the next craft of distribution and transmission. Where do those clearances start and begin and if those things could be more clearly defined moving forward. (Mike Brown, Avista, IBEW)</p>	<p>Thank you for your comment.</p> <p>There were no significant changes to this section of the rule and is outside the scope of this rulemaking. The final language in the rule was developed by the department and both business and labor, represented by the EUSAC subcommittee who reached consensus on all new requirements outside of OSHA and all updates to existing language.</p> <p>The company's lockout/tag out procedure is the minimum requirements of WAC 296-45-175.</p>
<p>The concerns that the employer I represent and I began with the lockout/tag out requirements and WAC 296-45-175 and where the</p>	<p>Thank you for your comment.</p>

<p>jurisdiction starts and stops. I believe an established point of disconnect from the transmission distribution system needs to be established, and it's a permanent location at every generation facility so the jurisdiction of that dam operator ends at that point. This allows the system operations who have authority over the transmission distribution lines to have an established point within the system they have jurisdiction over so that there's an established clarification for the employees. They know where their protection starts and who has authority over it. Many of the utilities I have been around, weather generation systems seem to move that point back and forth for their convenience depending upon which employees are available to work. Employees have a moving target to protect themselves through this hazardous energy control. (Jim Voss, Northwest Utilities Services)</p>	<p>Again this comment is outside the scope of this rulemaking. However, the host utility provides the necessary information to whoever is working on the property. The utility would have a lock out/tag out procedure in place according to the minimum standard set in WAC 296-45-175.</p> <p>Not every utility operates the same or is the same size, etc. Each individual lockout/tag out system should be specific to that utility as long as they meet the requirements of WAC 296-45-175. This would include ensuring that employees are protected in a changing environment.</p>
<p>WAC 296-45-255 Protective equipment.</p>	
<p>I believe this is a very significant oversight. There's a description of the ASTM standards that are applicable for rubber protective equipment. And now mentioned is ASTM 1-117 for dielectric foot wire. There have been a number of accidents, including fatalities, that have involved electrical contact from somebody who was standing on the ground. Additionally, we recognize that step and touch potential is a significant hazard when setting poles and stringing conductors and working on parallel lines. Currently, the industry is starting to use more and more steel poles. These steel poles create a greater hazard of touch-and-step potential. And so it's an oversight to not list rubber protective footwear and provide some guidance for employers and employees as to the means with which rubber protective footwear can be maintained and tested. Rubber protective footwear is used throughout the industry on an international scale, and many large employers within the United States are required to use this rubber protective footwear. (Brady Hanse, Avista, IBEW 77)</p>	<p>Thank you for your comments.</p> <p>There is nothing in the current rule regarding steel poles. This is outside the scope of this rulemaking. However, it is an issue that the EUSAC committee and the Department can research and evaluate for possible future rulemaking.</p>
<p>WAC 296-45-25505 Personal protective equipment.</p>	

<p>Dielectric boots. I feel these types of boots need to be considered as PPE. During my accident investigations, I found that the added resistances have prevented catastrophic injuries. I personally wear dielectric boots while I'm at work. (Damian Hernandez, IBEW 77, Lewis County)</p>	<p>Thank you for your comments.</p> <p>This is currently not a requirement from OSHA and would be an increase in requirements for the rule. The employer can provide or require dielectric boots.</p>
<p>WAC 296-45-325 Working on or near exposed energized parts.</p>	
<p>Subsection (7). Working position. The employer shall ensure that each employee, to the extent that other safety-related conditions at the worksite permit, works in a position from which a slip or shock will not bring the employee's body into contact with exposed, uninsulated parts energized at a potential different from the employee." It is in my view that that language should say will not bring the employee's body into the minimum approach distance from the exposed uninsulated parts energized at a potential different from the employee. Somebody just lost their life in this manner in California. They fell into an energized conductor. Our new appendix and the new descriptions of the minimum approach distance make it clear that simply avoiding contact with an energized conductor is not enough. We need distance. (Brady Hansen, IBEW, Avista)</p>	<p>Thank you for your comments.</p> <p>Employees must be in 100% fall protection when working from a pole or structure. If you follow the fall protection requirements in WAC 296-45-25510 this issue would be addressed.</p>
<p>Can a nonqualified worker take a conductive object, like a drone, within the Table 2 minimum approach distance? When does MAD apply to minimum helicopter approach distance or an MTID or some other form of minimum air installation distance in order to use these new tools that we see arriving on the scene? (Brady Hansen, Avista, IBEW)</p>	<p>Thank you for your comments.</p> <p>The drone issue is outside the scope of this rulemaking. Refer to the helicopter rules in WAC 296-45-675 for requirements on high voltage work while using a helicopter.</p>
<p>Meter and communication technicians often work around exposed 120V circuitry. They are certified by the employer through training and experience to be "qualified workers". Can they continue to perform their historic job tasks as "qualified electrical workers"? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>They can continue their job tasks as "qualified electrical employees" as long as the employer determines that they meet the requirements as outlined in the rule.</p> <p>Meter and communication technicians could be considered</p>

	<p>designated employees by the employer based on the following: The designated employee definition in WAC 296-45-035 states: “A person who is designated by the employer to perform specific duties under the terms of this chapter and who is knowledgeable in the construction and operation of the equipment and the hazards involved. Note: Considering an employee to be a designated employee will depend on various circumstances in the workplace, on the level of training they have received, and the proficiency demonstrated by the employee with the tasks required of the job”.</p>
<p>Temporary bypass jumpers. Conflicting interpretations as to the use and care of “temporary bypass jumpers” has been around for years. Guidance relative to the proper use, care, and testing should have been included in this proposal. Washington has formally acknowledged a tested jumper to be legal for encroachment. (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>Temporary bypass jumpers are outside the scope of this rulemaking. Guidance for the proper use, care and testing come from the manufacturers’ recommendations. The final language in the rule was developed by the department and both business and labor, represented by the EUSAC subcommittee who reached consensus on all new requirements outside of OSHA and all updates to existing language.</p>
<p>WAC 296-45-335 Deenergizing lines and equipment for employee protection.</p>	
<p>I represent Power Trip Energy, a solar PV installation company on the north Olympic Peninsula. We are electrical and general contractors. We have been working with Clallam PUD staff regarding WAC 296-45-335(3)(b) Deenergizing Lines and Equipment. Specifically the issue at hand is whether UL listed grid-intertied solar PV inverters installed on the customer side of the utility meter require an additional AC disconnect accessible to utility workers. Because WAC 296-45-335(3)(b) was developed long before this technology existed, it is silent on the issue. As a result in 2015 Clallam PUD strengthened their AC disconnect requirements resulting in additional costs to solar PV customers with</p>	<p>Thank you for your comments.</p> <p>The electrical utility has to protect their workers from any back feed which requires an opening for the utility workers to lockout/tag out to eliminate the hazard. The solar companies enter into an agreement with the utilities to exchange generated power (grid tied systems) and do not fall under Chapter 296-45 WAC.</p>

remote meters (meters on pedestals away from solar PV array). In 2013 the Washington Utilities and Transportation Commission took up this issue and in (UTC) General Order R-571 (attached) and WAC 480-108-020 the UTC now prohibit utility company's subject to the UTC's jurisdiction from requiring a visible, lockable, AC disconnect switch for small (25 kW or less) inverter-based systems unless L & I requires such a switch. The UTC concluded that UL 1741 grid tied inverters do not generate electricity when the grid is down, therefore an additional utility-accessible AD disconnect switch is redundant and represents an unnecessary cost to the solar PV owner. These switches are no longer installed in WA State on the electrical grid of investor owned utilities (Puget Sound Energy and Avista). However, the UTC's ruling only applies to investor-owned utilities, not public utilities such as the Clallam PUD. L & I (DOSH) was apparently invited to participate in these proceedings, but declined. Most public utilities continue to require AC disconnects for grid tied inverters which results in significant additional costs to solar PV customers. In 2015 I reached out to several L & I agency staff people to see if there was a way to resolve this issue through an agency interpretation (Jim Voss and Frank Lafaire). The conclusion to these discussions was that they could do nothing without a L & I rule change.

John Purvis, an engineer from Clallam PUD and I would like to work with you to draft an amendment to WAC 296-45-335(3)(b) that would address this problem so that state rules applying to private and public utilities will be uniform. Mr. Purvis feels that this solution is fairly straightforward, that if WAC 296-45-335(3)(b) stated that, "*UL-741 inverters need not be considered an electric source requiring isolation in the absence an electrical supply to the inverter,*" that this language could solve the problem.

Washington State Law Supports Customer Owned Renewable Energy

In support of this proposed rule change I cite the following, L & I should simplify and streamline the rules governing customer-owned renewable energy systems consistent with Washington State's policies encouraging renewable energy, distributed generation, and net metering. **RCW 80.60.05 Net Metering of Electricity, Findings** states that, *"The legislature finds that it is in the public interest to: 1) Encourage private investment in renewable energy sources; 2) Stimulate the economic growth of the state; and 3) Enhance the continued diversification of energy resources used in this state."*

In addition **I-937**, codified as **RCW 19.285 the Energy Independence Act** requires the state's largest electric utilities, including Clallam PUD, to obtain 15 percent of their energy from renewable sources by 2020. This law values locally generated renewable energy two times over renewable energy generated outside the utility.

Finally, in 2014 Governor Inslee issued Executive Order 14--04, Washington Carbon Pollution Reduction and Clean Energy Action, which directs a number of state agencies to take immediate action to reduce carbon pollution and speed up the rate of adoption of renewable energy in the state of Washington. While L & I (DOSH) is not specifically identified in this executive order, the proposed rule change is consistent with the spirit and intent of the Governor's executive order.

I have attached documentation written to Clallam PUD in 2015 identifying the problem. I have also attached a letter from Clallam PUD engineer John Purvis in 2015 agreeing that the proposed rule change makes sense. Please help us work with you to solve this problem to benefit the citizens of this state reduce the costs of solar PV installations

<p>and help fight climate change. (Jeff Randall, Power Trip Energy)</p>	
<p>Hazardous energy control written clearance program, in my opinion this should be a requirement. Employees should be trained and yearly inspections should be made. (Damian Hernandez, IBEW 77, Lewis County)</p>	<p>Thank you for your comment.</p> <p>OSHA does not require this program to be in writing, and the subcommittee did not recommend adding this requirement to the proposed rule.</p>
<p>I tried to work a problem through my company and my company's safety Dept., the Union (IBEW Local #77) and the Washington State Dept. of LNI. I found that my company had interpreted a rule that seemed out of sorts from the WAC 296-45-335 safety book that I was issued from the Washington State LNI Dept. This rule stated that when a clearance was granted by the system operator to the designated clearance holder that no work would be done under the clearance tagging points unless the clearance holder was on site. The items under clearance being switches, breakers, transformers, buss, switchgear etc. The WAC 296-45 definitions do not segregate the devices or what they are hooked too. I found that my company interpreted the rules to define that only the high voltage portion of the clearance (i.e., 600 VAC/VDC to 115,000 VAC/VDC) to be only part of the clearance and none of the ancillary parts of the system to be included in the clearance. It was also interpreted that I could work on the parts of the transmission and distribution system without the clearance holder on site and work on the tagging points of the clearance, i.e., the motorized switch that was decoupled. It was also interpreted by my company that I could work on any part of that transmission and distribution system under clearance without using the correct procedures to mitigate store energy and voltages from 50VAC/VDC to 600VAC/VDC that is not under control of the system operator. I did not agree with my company and wished to have an interpretation by the Dept. of Washington State High Voltage LNI, as stated in the WAC 296-45 they are the sole interpreters of these</p>	<p>Thank you for your comments.</p> <p>However, this is outside the scope of this rulemaking. Any issues that are identified in the future as lacking in clarity the department will work with the EUSAC to either clarify in rulemaking or issue an interpretation.</p>

rules. I met with LNI Policy and Technical Specialist Jim Voss and the LNI High Voltage Inspector Dick Maxwell and over the course of 2 years I tried to persuade my company to use the info from both of these high voltage linemen (IBEW Local #77) who are seasoned and experienced and now working for LNI. I personally found that these two Washington State LNI employees understood my profession and helped me get a correct interpretation; they both took the time to listen to my issues and were very patient on getting to the root cause of my problem and giving me a solution. I found that I finally had a resource to help me interpret the WAC 296-45 correctly and this helped me work safer. I commend both Jim Voss Washington State LNI Policy and Technical and Dick Maxwell Washington State LNI High Voltage Inspector, they both exemplify outstanding professionals working for us and keeping our trade safer. My company would not meet with the Washington State LNI High Voltage folks and at this impasse, I finally had to get a written opinion from LNI Policy and Technical which I shared with my company and their response was that LNI was wrong and that their interpretation was correct. Not only did they not agree with Washington State LNI Policy and Technical written response, I was then singled out and harassed by my Employer so badly that I had to get my Union IBEW Local #77 involved and file a whistle blower complaint with both my company's HR Dept. and through the Washington State LNI, this ultimately ruined my career at my previous employer and I have since moved to another company. I then filed a work place safety report and had an investigation by LNI regarding this Violation of WAC 296-45-335. An investigation by LNI was performed and they found several violations - lack of safety training, training in general on a huge amount of work related items and the incorrect use of clearance procedures by my company. What happened amazed me and this is why our accident rates are going up. The company hired lawyers and used our lawyers also. This case then went on to various stages of the investigation, the short

<p>of it is the case was finally just thrown out because the LNI lawyers and PUD lawyers did not find any harm even though the utility I worked at interprets the WAC 296-45-335 different from the State Dept. of LNI and made their own rules and interpretation. One of the most intriguing things about this case is that the Washington State Assistant Attorney General assigned to this case would not meet with me, but would meet with my company to hear their side. I think that this does great harm to the WAC 296-45 rules that the Washington State LNI High Voltage inspectors are supposed to enforce. I would hope that we can move forward and get better clarification on the demarcation line between generation and transmission and distribution needs to be defined so that this demarcation line is not so vague. The difference between LOTO tagging point and clearance tagging point has been one that varies greatly between utilities and agencies. (Mike Kizer, Seattle City Light)</p>	
<p>I believe that we didn't fully address in the code the issue that in the energy control of transmission distribution lines, which is in WAC 296-45-335, where it is not giving specific instruction that the employer needs to have a written program established reflecting compliance to the WAC 45 codes. The jurisdiction for transmission distribution, also in 335, covers substations. It's become the tendency in our state to turn over the operation of substations to electricians who are not familiar with WAC 296-45-335 for de-energizing lines and equipment. They tend to rely on the lockout/tagout procedures that they were trained in as electricians, and the two systems are not compatible with each other. There are electrical reasons why WAC 296-45-335 was established for these protections. One of the major differences is that when the lockout/tagout requirements that the electricians use does not require a visual open that you can verify that the line is separated. In 335 for the linemen and for the substation workers it states that a visible open must exist. There's only one occasion where that's not the requirement. So when you apply lockout/tagout with no visual open requirement, you</p>	<p>Thank you for your comments.</p> <p>This is outside the scope of this rulemaking. The final language in the rule was developed by the department and both business and labor, represented by the EUSAC subcommittee who reached consensus on all new requirements outside of OSHA and all updates to existing language.</p>

<p>are in noncompliance with WAC 296-45-335. I believe these things need to be addressed by the WAC code, and they need to be brought to the industry. (Jim Voss, Northwest Utilities Services)</p>	
<p>In WAC 296-45-335, there is no mention of the voltages that are covered. The voltages are established in a different section. They're established in the section that relates to working on or near energized conductors, which is WAC 296-45-325, where it instructs us that only qualified workers may work on or near energized, exposed live parts of 50 volts or more. And it further states that unless these lines have been de-energized under the provisions of WAC 296-45-335, not lockout/tag out, 335, these are to be considered energized. So that leaves us to 335 de-energizing lines for employee protection applies to all voltages over 50 volts, which would be the entire transmission distribution system, right up to the point of delivery to the customer. The electrical supply lines that are maintained and operated by the utility as directed by the National Electric Safety Code instruct that the utility needs to be in control of these lines at all times. When non-employees unqualified to work on supply lines that are owned by the utility are making modifications, correction, or connections to these energized lines that would be in noncompliance. If a person, possibly an electrician, goes up and opens up a service at the weather head and then comes and reestablishes those connections later, he has worked on the utility system; and the utility has not pre-approved or qualified that individual. The difference between electricians and linemen is electricians are certified by the state to do all phases of electrical work, but they may not be qualified. The analogy that I like to use is all teachers in the state of Washington have to be certified by the state. Are all of them qualified to teach nuclear physics? Obviously, no. If the electrician has not been trained in the special precautionary techniques as required in WAC 296-45-065, then he's not qualified. He may be certified, but he's not qualified. On the other hand, a lineman, who may have journeyman</p>	<p>Thank you for your comments.</p>

<p>lineman’s qualification or he may be qualified and trained and designated as a qualified worker by his employer, takes the qualification from his employer. So if the electrician does not work or has not been qualified by the utility, he technically cannot work on it. (Jim Voss, Northwest Utilities Services)</p>	
<p>De-energizing lines and equipment. The definition makes reference to both a system operator and power dispatcher. The written code makes no reference to a dispatcher, both should be referenced. (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comment.</p> <p>In WAC 296-45-035 Definitions, “System operator or power dispatcher” are defined as: “A qualified electrical employee who has been designated by the employer and having authority over switching, clearances, and operation of the system and its parts”. It is up to the employer to determine which title is preferred for the position with these duties. These are interchangeable terms.</p>
<p>Can a line clearance tree trimmer be issued a clearance? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comment.</p> <p>No. They can only work under a clearance that was taken out by a qualified electrical employee that is on site.</p>
<p>WAC 296-45-345 Grounding for the protection of employees.</p>	
<p>We as a committee proposed and it's incorporated into the proposal, some additional information related to equipotential zone. This would be under Chapter 45, Section 345, Sub.(3). The importance there is we wanted a better recognition of the requirements of bonding that goes in conjunction with the information already present related to grounding. (Steve Cant, IBEW 77)</p>	<p>Thank you for your comment supporting this addition to the rule.</p>
<p>I would like to comment on one of the changes that our committee agreed to. Equipotential grounding. Temporary protective grounds and bonding jumpers shall be placed at such locations and arranged in such a manner to prevent each employee from being exposed to hazardous differences of electrical potential. Note: This may require bonding equipment together. As discussed in our committee, the addition of</p>	<p>Thank you for the comments supporting this addition to the rule.</p>

<p>bonding jumpers is referring to bonding conductors, towers and structures, and equipment. The purpose is to maintain or improve the equipotential zone around the worker. We are not referring to bonding nuts, bolts, and other minimal hardware devices. (Damian Hernandez, IBEW 77, Lewis County)</p>	
<p>Early on when people began to investigate the methods of creating an equipotential zone upon overhead structures, they were predominantly of two types: They were either lattice steel or wood. It was discovered that the easiest way to create an equipotential zone on a wood pole was with the use of a pole band, which would strap around the pole and create a circumferential equipotential zone. Fast-forward to modern times, we now have an industry that's starting to begin to use a deal of weatherized steel poles, a large number of them are already in use. Testing and research at utilities and by various organizations has shown that pole bands on weatherized steel poles are a very bad idea. A weatherized coating that rusts is a very large impedance, and it creates a significant hazard to install a pole band on a weatherized steel pole. For this reason, I would like to know some clarification within 296-45-345. "Ground surface cleaning, the surface to which the ground is to be attached shall be cleaned before the grounding clamp is installed otherwise is a self-cleaning clamp shall be used." With that verbiage, does that mean that the state would require somebody to remove the weatherized coating from a steel pole in order to create an equipotential bonding connection? Or is a welded or drilled full current approved lug required to be installed? Also on these same steel poles is the jump ring of slip joint steel poles required? (Brady Hansen, IBEW 77, Avista)</p>	<p>Thank you for your comments.</p> <p>It is up to the employer to test to see if there is a different potential between grounding clamp and the pole band. Always follow the manufacturers' recommendations.</p>
<p>WAC 296-45-355 Underground grounding.</p>	
<p>Do companies need a written policy for this section? (Brady Hansen, Avista, IBEW 77)</p>	<p>Thank you for your comments.</p> <p>No. Employers should follow established procedures. The</p>

	department does not address company policies.
WAC 296-45-375 Mechanical equipment.	
Subsection (10)(c) – grounding equipment must meet approved specifications – is grounding the proper term applied to the mat? (Mike Roberts, Inland Power and Light)	Thank you for your comment. This is outside the scope of this rulemaking. However, grounding is the proper term for grounding a mat.
Subsection (18). Does a ladder truck refer to a truck mounted ladder such as a fire truck? Is a boom mounted ladder a more appropriate term? This is obsolete language and should have been changed in the revision. (Mike Roberts, Inland Power and Light)	Thank you for your comment. This is outside the scope of this rulemaking. The rules addresses tools and equipment used by employees working under the scope of Chapter 296-45 WAC, this term is not meant to apply to fire trucks or other types of firefighting apparatus.
WAC 296-45-385 Overhead lines.	
This section mentions that anytime lines are installed parallel to additional lines, a determination of the amount of induced voltage must be made. I think it's very important to acknowledge that we are capable of measuring induced voltages and step potentials off the ground with tools like the ground hound. When this verbiage was crafted and that requirement to make the determination of induced voltage became law, these tools didn't exist. They exist now so that workers, employers and employees can understand in real time the amount of step-and-touch potential they are facing. (Brady Hansen, Avista, IBEW 77)	Thank you for your comments.
Subsection (8). Live-line bare-hand work is another work method that is used internationally. It is used in Brazil, Canada, India, and Africa. The vast majority of the United States allows people to utilize live-line bare-hand work. Per man hour worked, you can easily make the argument that live-line bare-hand work is a safer maintenance method than de-energizing a transmission line. Millions of hours have been worked successfully by several organizations. And the fact that we prohibit live-line bare-handing in this state makes no sense whatsoever. What type of investigation have we done in investigating live-line bare-hand work,	Thank you for your comments. Yes, OSHA allows this type of work but it is prohibited in Washington state.

<p>and what is our justification for prohibiting the live-line bare-hand work? (Brady Hansen, Avista, IBEW 77)</p>	
<p>Subsection (1)(c). When a pole is set, moved, or removed near an exposed energized overhead conductor, can employees perform this task wearing electrical protective equipment and without taking any other precautions? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comment.</p> <p>No. Employees must follow all personal protective equipment requirements needed for the job as outlined in the rule.</p>
<p>WAC 296-45-455 Line-clearance tree-trimming operations.</p>	
<p>Addressing powerline clearance tree trimmers as workers with routine and regular exposure to electrical hazards, some of the work practices for powerline clearance tree trimmers are as follows:</p> <p>Felling large trees with the potential of contacting, cross phasing, and/or tearing down energized conductors;</p> <p>Topping trees with the potential of contacting , cross phasing, and/or tearing down energized conductors;</p> <p>Rigging and removing limbs and chunks of wood over and around energized conductors with the potential of contacting, cross phasing, and/or tearing down energized conductors;</p> <p>Climbing trees overhanging the lines with the climb rope having the potential of contacting or cross phasing energized conductors;</p> <p>Trimming and removing trees that are, at the time the work is being conducted, within the minimum approach distances;</p> <p>Trimming and removing trees that are, at the time the work is being conducted, part of the energized circuit (smoking or on fire in many cases);</p> <p>Setting ropes or rigging apparatus in trees that are, at the time the work is being conducted, within the minimum approach distances; and</p> <p>Setting ropes or rigging apparatus in trees that are, at the time the work is being conducted, part of the energized circuit (smoking or on fire in many cases).</p> <p>According to the Bureau of Labor Statistics, workers in the tree care industry have some of the most dangerous work in the country.</p>	<p>Thank you for your comments.</p> <p>In the training section WAC 296-45-065 (2) new language was inserted that states “the degree of training shall be determined by the risk of the employee for the hazards involved”. This would apply to line-clearance tree-trimmers as well.</p>

<p>Recognizing these regular work practices for powerline clearance tree trimmers and the amount of danger that is associated with this type of work, it seems appropriate to reanalyze and further include these workers in some of the safety prevention provisions established, but narrowly interpreted, by the proposed WAC 45 changes. (Shane Hale, Commenter)</p>	
<p>WAC 296-45-475 Substations.</p>	
<p>A substation safety watch is responsible to observe non-qualified workers perform work up to the Table 1 distance of substation components energized to primary and transmission voltages. The qualified electrical worker definition implies its focus to be on personnel performing work. Is the definition applicable in the case of a safety watch? (Mike Roberts, Inland Power and Light)</p>	<p>Thank you for your comments.</p> <p>There is no implied verbiage that the “qualified electrical employee” must be performing the work. Additionally, it is very explicit in WAC 296-45-475 (6)(c)(ii) through (v) that the safety watch is required to be a “qualified electrical employee” who monitors the work of others.</p>
<p>WAC 296-45-903 Appendix B – Protection from step and touch potentials – nonmandatory.</p>	
<p>The second question I have is about inadvertent movement. It says the following: "Employers may use the IEEE Standard 1048-2003 equation to determine safe body current limits only if the employer protects workers from hazards associated the involuntary muscle reactions from electric shock; for example, the hazard to a worker from falling as a result of an electric shock." So this Biegelmier's curve means that the amount of current through the body is less than necessary to create ventricular fibrillation. But as acknowledged by the wording here, it can create large involuntary muscle movement; this means, thrown or dropped tools. So if an employer was using Biegelmier's curve as a means of establishing the minimum size or maximum size of grounding equipment, would that also require the use of lanyards on tools? One of the precautions mentioned here in the appendix is, for example, the hazard of a worker falling as a result of an electric shock. (Brady Hansen, IBEW 77, Avista)</p>	<p>Thank you for your comments.</p> <p>This is a non-mandatory appendix which was adopted identical to OSHA.</p>

<p>WAC 296-45-905 Appendix C – Methods of inspecting and testing wood poles – nonmandatory.</p>	
<p>The last question and clarification I would like to seek is 296-45-905, testing of wood poles. It says, "The following tests are recognized as acceptable methods of testing wood poles: A, hammer test," which is probably our oldest method of testing wood poles; and, "B, the rocking test," which is a test many experienced line workers in my craft will tell you is oftentimes impractical and rarely used. I would like to understand why drilling a wood pole is not a recognized, acceptable method of testing wood poles. Technology in the industry today means that line crews are equipped with either a battery powered drill or a gas powered drill, which makes the drilling of a wood pole to ascertain its health much more effective than either one of the two currently accepted methods of testing wood poles. In fact, it's my recommendation that rocking test be replaced with drilling test. In terms of assessing wood poles for asset management, it is the preferred method because it is so much or effective than hammering or rocking. (Brady Hansen, IBEW 77, Avista)</p>	<p>Thank you for your comments.</p> <p>This is a non-mandatory appendix which was adopted identical to OSHA.</p>
<p>WAC 296-45-907 Appendix E – Work-positioning equipment inspection guidelines – nonmandatory.</p>	
<p>I understand this appendix is nonmandatory. And it's simply therefore a guideline. So the reason I bring it up is because I know for a fact these rules are read. When I talk to pre-apprentice groundmen attending line school or apprentices, I give them each a copy of these sacred rules and tell them to keep them next to their bed stand or keep them in the bathroom and to read them to the point that these rules are buried deeply into who they are as an electrical worker; so that they're ingrained. So even though that this might seem like a simple guideline, I know for a fact it will be read by somebody and probably somebody new to our industry. The guideline refers to these systems as a body belt, a positioning strap, and a climber. I would like to make the case</p>	<p>Thank you for your comments.</p> <p>This is a non-mandatory appendix which was adopted identical to OSHA.</p>

that work positioning equipment has evolved to include body belts, fall arrest systems, passing ropes, and climbers. And the inspection criteria listed under the positioning straps, while good, is also a bit dated. We should include inspection criteria for passing ropes and for fall arrest systems. There have been a couple of accidents across the country involving these new technologies. Additionally climbers have changed such that it's not very often that they are simply held onto a climber's leg with straps and buckles, but also Velcro. So I would like to see in the inspection guideline some criteria about inspecting for Velcro. (Brady Hansen, IBEW 77, Avista)