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## **Preliminary Cost-Benefit Analysis**

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### ***Electrical Rules (Code Adoption)***

#### **Chapter 296-46B WAC Electrical Safety Standards, Administration, and Installation**

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## CHAPTER 1: Requirements of the Administrative Procedure Act

The Administrative Procedure Act (APA; Chapter 34.05 RCW) requires that, before adopting a significant legislative rule, the Department of Labor & Industries (L&I) must analyze the probable costs and benefits of the rule, and determine that the benefits are greater than its costs, taking into account both the qualitative and quantitative benefits and costs.” RCW 34.05.328(1)(d). Under certain circumstances, a rule or rule component is exempt from this requirement. These exemption criteria are listed in RCW 34.05.328(5)(b), including:

- Emergency rules adopted under RCW 34.05.350;
- Rules relating only to internal governmental operations that are not subject to violation by a nongovernment party;
- Rules adopting or incorporating by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule;
- Rules that only correct typographical errors, make address or name changes, or clarify language of a rule without changing its effect;
- Rules the content of which is explicitly and specifically dictated by statute;
- Rules that set or adjust fees under the authority of RCW 19.02.075 or that set or adjust fees or rates pursuant to legislative standards, including fees set or adjusted under the authority of RCW 19.80.045.

This cost-benefit analysis has been prepared to comply with the APA for the amendment of and creation of rule sections under Chapter 296-46B WAC that do not fall under the exemptions described above. The Cost-Benefit Analysis and Least-Burdensome Alternative Analysis in this report are based on the best available information at the time of publication.

The APA also requires L&I to “determine, after considering alternative versions of the rule... that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives” of the governing and authorizing statutes. RCW 34.05.328(1)(e). Chapter 6 of this document describes that determination.

## **CHAPTER 2: Background of the Proposed Rules**

### **2.1 The background of this rulemaking**

This rulemaking is needed to update the rules with the latest national consensus safety standards to protect people and property from electrical hazards. The National Electrical Code (NEC) is the recognized safety standard for the electrical industry and is adopted throughout North America. The NEC sets the standard for safe electrical design, installation and inspection in homes, businesses, industry, and institutions to protect people and property from electrical hazards. The 2023 edition of the code presents the latest comprehensive regulations for electrical wiring, overcurrent protection, grounding and installation of equipment. The purpose of the safety codes and standards are to enhance public health and safety.

#### **2.1.1 Rule development process**

This rule development process includes an opportunity for public proposals, review and recommendations of all proposals by a Technical Advisory Committee (TAC) and the Electrical Board (Board), and public hearing process.

On April 4, 2023, L&I filed a CR-101 Preproposal Statement of Inquiry (WSR 23-08-066) to begin rulemaking.

A Special Edition, April 2023 Electrical Currents Newsletter was sent to stakeholders and interested parties via GovDelivery outlining the Electrical Program's rule revision process and sequence of rulemaking activities.

From April 4 to May 20, 2023, L&I invited interested parties to submit proposals for changes to the rules. L&I also solicited experts and industry representatives to participate on a TAC.

The Electrical Program received 20 proposals from stakeholders for changes to the rules.

On July 11, 2023, the TAC convened a meeting to review rule proposals and provide recommendations to L&I. The TAC for this rulemaking consisted of 34 industry experts and interested group representatives appointed by L&I from across the industry. The purpose of the TAC is to evaluate rule proposals focusing on life/safety, state policies, maintaining a fair competitive environment, and correcting errors and omissions.

On October 26, 2023, the Board reviewed and provided advice to L&I on the draft proposed rules. The Board consists of 16 industry representatives: Electricians, Electrical Utility, Electrical Contractors, Manufacturer, Telecommunication Contractor, Telecommunication Utility, Telecommunication Worker, Licensed Professional Electrical Engineer, General Public, Local Jurisdiction Seat (non-voting), Outside Line Worker, and Secretary (Chief Electrical Inspector (non-voting)). The purpose and function of the board is to advise the director on all matters pertaining to the enforcement of chapter 19.28 RCW (RCW 19.28.311).

Stakeholders receive notice of rulemaking status on a monthly basis through the Electrical Currents Newsletter via the Electrical Program's GovDelivery email list. Stakeholders and other interested parties were also notified directly. Information about this rulemaking is available on the L&I's website.

## **2.2 The description of the proposed rules**

### **2.2.1 Determination for significant legislative rules or exemption**

As required by the APA, L&I analyzed its proposed rules to determine whether the rules are "significant legislative rules" as defined in RCW 34.05.328(5)(a)(i). This section describes the results of the required analysis.

The majority of changes are not significant legislative rule changes and are exempt from the cost-benefit analysis requirement under:

- [RCW 34.05.328\(5\)\(b\)\(iii\)](#) - Rules adopting or incorporating by reference without material change, any of the following: federal statutes or rules; Washington state statutes or rules; or national consensus codes that establish generally accepted industry standards.
- RCW 34.05.328(5)(b)(iv) - Rules that only correct typographical errors, make address or name changes, or clarify language of a rule without changing its effect,

The changes deemed significant legislative rules are analyzed in Chapter 3.

## **CHAPTER 3: Probable Costs and Benefits of the Proposed Rule**

The estimated costs and benefits in this analysis, if any, represent only the new costs/benefits of complying with the proposed rule for the affected parties, excluding those associated with or originating from the current practices or “baseline” standards under existing laws, rules, or national consensus standards. Accordingly, L&I did not analyze any costs or benefits attributed to existing standards or when a standard is not appreciably different from an existing standard.

### **WAC 296-46B-210 Wiring and protection—Branch circuits.**

#### **WAC 296-46B-210(8)**

**Rule Overview:** If receptacle outlets are not installed to serve an island or peninsular countertop or work surface, no future provisions to do so are required.

**Costs/Benefits:** No cost, potential costs savings for customers from not being required to install electrical components they don’t intend to use.

### **WAC 296-46B-230 Wiring and protection - Services**

#### **WAC 296-46B-230(8)**

**Rule Overview:** Removes the language preventing the use of electrical metal tubing (EMT). Allowing EMT to be used pursuant to subsection WAC 296-46B-230(7) of this subsection.

**Costs/Benefits:** No cost, benefit by increasing operational flexibility by providing an alternative wiring method for service conductors.

#### **WAC 296-46B-230(10)(b)**

**Rule Overview:** Deviates from the NEC. Adds an exception to not restrict the length of a service raceway when proper overcurrent protection is provided.

**Costs/Benefits:** No costs, benefit by increasing operational flexibility by removing the 15 foot restriction.

#### **WAC 296-46B-230(11)**

**Rule Overview:** This change provides criteria for when an emergency disconnect switch is not required.

**Costs/Benefits:** No cost with a cost savings from when the criteria are met and an emergency disconnect is not required.

## **WAC 296-46B-235 Branch circuits, feeders, and services over 1,000 volts ac, 1,500 volts dc nominal. (new section)**

**Rule Overview:** Adds new language for an exception to not restrict wiring methods when proper overcurrent protection is provided.

**Costs/Benefits:** No costs, benefit from increasing operational flexibility by providing an alternative wiring method for service conductors.

## **WAC 296-46B-240 Overcurrent protection.**

### **WAC 296-46B-240(1)(b)**

**Rule Overview:** Includes roofs in the requirement that overcurrent protection equipment enclosures be installed 24 inches above the surface.

**Costs/Benefits:** No new costs. There are no known rooftop units whose installation does not meet the new requirement, benefit is improved clarity and consistency on this requirement across installation surfaces

### **WAC 296-46B-240(3), (3)(a), (3)(b), (3)(b)(i) through (3)(b)(viii)**

**Rule Overview:** This proposed new section outlines documentation required to assure that testing required by NEC 240.67 is performed.

**Costs/Benefits:** No new costs. Written records of testing are already required by the national standards. Benefits are ensuring the required testing was performed and reduce possible delays during inspections.

### **WAC 296-46B-240(4), (4)(a) through (4)(h),**

**Rule Overview:** This change creates a new subsection requiring documentation to assure that testing required by the NEC 240.87 is performed.

**Costs/Benefits:** No new costs. Written records of testing are already required by the national standards. Benefits are ensuring the required testing was performed and reduce possible delays during inspections.

## **WAC 296-46B-250 Wiring and protection—Grounding and bonding.**

### **WAC 296-46B-250(2)(c)**

**Rule Overview:** This change clarifies when concrete electrode requirements apply where additions are made to existing foundations.

**Costs/Benefits:** No new costs. Existing services met code at the time of installation. This change clarifies that they still meet code with benefit of improved clarity.

## **WAC 296-46B-314 Wiring methods and materials- Outlet, device, pull, and junction boxes**

### **WAC 296-46B-314(3)**

**Rule Overview:** Adds new language to clarify the locations acceptable for the installation of ceiling-suspended (paddle) fans previously published in the April 2021 Electrical Currents Newsletter.

**Costs/Benefits:** No new costs. This change clarifies the locations for installing paddle fans with benefit of improved clarity.

## **WAC 296-46B-334 Wiring methods and materials- Nonmetallic-sheathed cable.**

### **WAC 296-46B-334(7), (7)(a) through (7)(d),**

**Rule Overview:** Increases operational flexibility by adding the allowance made by policy published in the December 2021 L&I Electrical Currents newsletter.

**Costs/Benefits:** No new costs. This change clarifies wet or damp locations and conditions for installing non-metallic sheath (NM) cables with benefit of improved clarity.

## **WAC 296-46B-550 Special occupancies—Mobile homes, manufactured homes and mobile home parks.**

### **WAC 296-46B-550(2)(a)**

**Rule Overview:** The rule change allows for mounting of service equipment on mobile/manufactured homes if approved by the manufacturer.

**Costs/Benefits:** No new costs. This change provides an exception for the installation of service equipment on manufactured homes with a benefit in increased flexibility and potential cost savings.

## **WAC 296-46B-690 Solar photovoltaic systems.**

### **WAC 296-46B-690(3)**

**Rule Overview:** Clarification regarding availability of the design review defined in WAC 296-46B-100.

**Costs/Benefits:** No new costs. This is not a new requirement. Clarifies what “available” means for installers with benefit of improved clarity.



## **WAC 296-46B-692 Fuel cell systems. (new section)**

**Rule Overview:** Requires installers to provide a system design review, defined in WAC 296-46B-100, at the time of inspection.

**Costs/Benefits:** No new costs. Installers already design systems before installation. Benefits are ensuring the design review is available for inspectors and reduce possible delays during inspections.

## **WAC 296-46B-694 Wind electric systems.**

**Rule Overview:** Clarification regarding availability of the design review defined in WAC 296-46B-100.

**Costs/Benefits:** No new costs. This is not a new requirement. Clarifies what available means for installers.

## **WAC 296-46B-705 Interconnected electric power production sources.**

### **WAC 296-46B-705(3)**

**Rule Overview:** Requires installers to provide a copy of the system design review, defined in WAC 296-46B-100, at the time of inspection.

**Costs/Benefits:** No new costs. Installers already design systems before installation. Benefits are ensuring the design review is available for inspectors and reduce possible delays during inspections.

## **WAC 296-46B-710 Standalone systems.**

**Rule Overview:** Requires installers to provide a copy of the system design review, defined in WAC 296-46B-100, at the time of inspection.

**Costs/Benefits:** No new costs. Installers already design systems before installation.

## **WAC 296-46B-908 Class B permits. Class B electrical work permit - Use.**

### **WAC 296-46B-908(9)**

**Rule Overview:** Increases the time allowed for work under a Class B permit in a one or two family residential structure from 90 days to 120 days

**Costs/Benefits:** No costs. Benefits associated with allowing more time to complete installations. Reducing the necessity for buying more than one permit.

## **WAC 296-46B-920 Electrical/telecommunications license/certificate types and scope of work.**

### **WAC 296-46B-920(2)(f)(iii)(A)(IX)**

**Rule Overview:** Adds a new allowance for (06A) electricians.

**Costs/Benefits:** No costs. Benefits associated with expanding the work scope to enable (06A) electricians to do this type of work when it is directly related to the HVAC refrigeration system they are installing.

### **WAC 296-46B-920(2)(f)(iii)(A)(X)**

**Rule Overview:** Adds new language to expand the (06A) electrician scope of work.

**Costs/Benefits:** No costs. This change allows the (06A) specialty to install a lower rated overcurrent device that is compatible with the replacement furnace at the end of the existing furnace circuit. Benefits associated with ensuring that the (06A) specialty does not lose the ability to replace gas furnaces.

### **WAC 296-46B-920(2)(f)(iii)(A)(XI)**

**Rule Overview:** Adds new language that allows (06A) electricians to install, repair, replace, and maintain new devices for HVAC refrigeration equipment.

**Costs/Benefits:** No costs. Benefits associated with expanding the (06A) work scope to allow these electricians to install devices that protect electronics in HVAC equipment

### **WAC 296-46B-920(2)(f)(iv)(A), and (B)**

**Rule Overview:** Restructures the (06A) and (06B) rules for scope of work.

**Costs/Benefits:** No costs. Applies to new allowance for (06A) electricians under (2)(f)(iii)(A)(IX) above. Without this provision there would be a conflict in the rule. Benefit associated with aligning the rules.

## **WAC 296-46B-942 Training certificate required. General.**

### **WAC 296-46B-942(12)(c)**

**Rule Overview:** Streamlining processes. Affidavits have been revised to remove trainee signatures, to simplify the process. The employer or apprenticeship only needs to attest to the trainee's hours.

**Costs/Benefits:** No costs. Benefit associated with eliminating the need for the trainee to sign an affidavit and in allowing for a designated authorized signer for the director's signature.

### **WAC 296-46B-942(13)**

**Rule Overview:** Streamlining processes. Notarized signatures of training directors or their designated authorized signers is adequate for purposes of attestation of hours of experience.

**Costs/Benefits:** No costs. Benefit associated with flexibility in allowing for a designated authorized signer of affidavits for directors.

### **WAC 296-46B-960 Administrator and electrician certificate of competency examinations. General.**

#### **WAC 296-46B-960(4)(a)**

**Rule Overview:** Removes the requirement for a notarized release to discuss matters, written opinion from a physician or other appropriate specialist is adequate.

**Costs/Benefits:** No costs. Benefit associated with simplifying the exam process for applicants.

#### **WAC 296-46B-960(4)(b)**

**Rule Overview:** Aligning rule with proper order of actions necessary for approval of special accommodations request.

**Costs/Benefits:** No costs. Benefit associated with streamlining the exam process for those that request special accommodation.

#### **WAC 296-46B-960(5)**

**Rule Overview:** Streamlines requirements an applicant with Limit English Proficiency to request an accommodation.

**Costs/Benefits:** No costs. Benefits with improved clarity on the process to request an accommodation.

### **Repealed Rules**

WAC 296-46B-406R

WAC 296-46B-440

The repeal of rules create no new cost.

## **CHAPTER 4: Cost-Benefit Determination**

The proposed rule amendments to Chapter 296-46B WAC have been assessed for both cost and benefit impact to the affected entities and individuals.

There are no new costs associated with this rule change. There are benefits from changes in equipment and installation requirements, and qualifications for 06A electricians. Given the lack of costs and the identified benefits, the benefits of this rule change outweigh the costs.