



PROPOSED RULE MAKING

CR-102 (June 2012)

(Implements RCW 34.05.320)

Do NOT use for expedited rule making

Agency: Department of Labor and Industries

- Preproposal Statement of Inquiry was filed as WSR 13.20.033 or
 Expedited Rule Making--Proposed notice was filed as WSR _____; or
 Proposal is exempt under RCW 34.05.310(4) or 34.05.330(1).

- Original Notice
 Supplemental Notice to WSR
 Continuance of WSR

Title of rule and other identifying information: Electrical Rules
Chapter 296-46B WAC, electrical safety standards, administration, and installation.

Hearing location(s):
Department of Labor and Industries
7273 Linderson Way SW, Room S119
Tumwater, Washington 98501

For directions to the L&I Office:
<http://www.lni.wa.gov/Main/ContactInfo/OfficeLocations/>

Date: **April 10, 2014** Time: **1:00 p.m.**

Date of intended adoption: May 20, 2014
(Note: This is NOT the effective date)

Submit written comments to:
Name: Alicia Curry
Address: Post Office Box 44400
Olympia, Washington 98504-4400
e-mail: alicia.curry@lni.wa.gov
fax: 360-902-5292 by **5:00 p.m.** on **April 10, 2014**

Assistance for persons with disabilities:
Contact Alicia Curry, Rules Coordinator by **March 25, 2014**, at 360-902-6244 or by email at alicia.curry@lni.wa.gov

Purpose of the proposal and its anticipated effects, including any changes in existing rules:
The Department is proposing amendments to new safety code requirements from the 2014 edition of the National Electrical Code (NEC) and to existing electrical rules. The 2014 NEC was adopted in reference by the department on March 1, 2013, and will replace the current 2008 NEC standards, effective July 1, 2014. The electrical rules are systematically reviewed each code cycle for consistency with national electrical safety standards and industry practice, for rule clarity, housekeeping changes, etc. The proposed amendments are needed to:

- Amend the 2014 NEC safety requirements to align with existing rules and eliminate rule conflicts;
- Adopt exceptions to the national electrical safety standards to ensure public, worker, and structure safety;
- Adopt proposals requested by stakeholders, such as:
 - Allowing riser conduit installations to be installed at the time of the foundation without inspection, as opposed to inspection, prior to the foundation being poured; and
 - Eliminate exceptions for receptacle installations in certain areas, such as garages, balconies, decks, etc. that are not readily accessible to discourage the use of extension cords and improve public safety; and
 - Align the electrical rules with the 2014 NEC requirements for residential Arc Fault protection.
- Amend language for general housekeeping, grammatical and reference corrections to bring the rules up to date.

Reasons supporting proposal: The NEC sets the standard for safe electrical installation and inspection in homes, businesses, industry and institutions to protect people and property from electrical hazards. These rules are necessary to ensure the new code requirements that impact electrical work align with existing rules and amendments are proposed, before the NEC is implemented.

For more information on this rulemaking, visit the L&I web site at:
<http://www.lni.wa.gov/TradesLicensing/Electrical/LawRulePol/RuleDev/default.asp> or contact the individual below.
Interested parties can sign up for e-mail updates at: <http://www.lni.wa.gov/Main/Listservs/Electrical.asp>.

Statutory authority for adoption: Chapter 19.28 RCW,
Electricians and Electrical Installations

Statute being implemented: Chapter 19.28 RCW,
Electricians and Electrical Installations

Is rule necessary because of a:

Federal Law?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Federal Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
State Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

If yes, CITATION:

DATE
March 4, 2014

NAME (type or print)
Joel Sacks

SIGNATURE

TITLE
Director

CODE REVISER USE ONLY

OFFICE OF THE CODE REVISER
STATE OF WASHINGTON
FILED

DATE: **March 04, 2014**
TIME: **5:35 PM**

WSR 14-06-097

Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters:

None.

Name of proponent: Department of Labor and Industries

- Private
- Public
- Governmental

Name of agency personnel responsible for:

Name	Office Location	Phone
Drafting..... José Rodriguez	Tumwater, Washington	(360) 902-6348
Implementation.... José Rodriguez	Tumwater, Washington	(360) 902-6348
Enforcement..... José Rodriguez	Tumwater, Washington	(360) 902-6348

Has a small business economic impact statement been prepared under chapter 19.85 RCW or has a school district fiscal impact statement been prepared under section 1, chapter 210, Laws of 2012?

Yes. Attach copy of small business economic impact statement or school district fiscal impact statement.

A copy of the statement may be obtained by contacting:

Name: Alicia Curry
Address: PO Box 44410
Olympia, Washington 98504-4400
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No. Explain why no statement was prepared.

Is a cost-benefit analysis required under RCW 34.05.328?

Yes A preliminary cost-benefit analysis may be obtained by contacting:

Name: Alicia Curry
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No: Please explain:

Small Business Economic Impact Statement for Electrical Safety Regulations

*Washington State
Department of Labor and Industries*

February, 2014

DRAFT

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EXECUTIVE SUMMARY

The Electrical Program within the Department of Labor and Industries reviews the National Electrical Code (NEC) every three years or each code cycle to ensure the electrical rules align with the national safety standards and industry practice. In this rulemaking, the program is considering amendments to the electrical rules based upon adoption of the 2014 edition of the NEC, which will take effect July 1, 2014. The rulemaking is also intended to clarify the current rules and to address recommendations from stakeholders. As such, there are very few changes in this rulemaking that represent increased or new requirements that will impose new costs on the affected parties.

According to the Regulatory Fairness Act (RFA), RCW 19.85.030, an agency shall prepare a small business economic impact statement (SBEIS): (i) If the proposed rule will impose more than minor costs on businesses in an industry; or (ii) if requested to do so by a majority vote of the joint administrative rules review committee within forty-five days of receiving the notice of proposed rulemaking under RCW 34.05.320. This report is prepared to determine whether the proposed electrical rules will impose more than minor costs and, if yes, whether the proposal will impose a disproportionate impact on small businesses.

Section 2 contains the results with regard to the comparison of costs between small businesses and their larger counterpart. Based on these analyses, the department concludes the proposed rules will not impose a disproportionate impact on small businesses. In addition, the proposal as a whole will impose less than minor costs¹ on the affected businesses. Therefore, an SBEIS is not required and this document is prepared for general information purposes only.

¹ Minor cost is defined under RCW 19.85.020 as a cost per business that is less than three-tenths of one percent of annual revenue or income, or one hundred dollars, whichever is greater, or one percent of annual payroll. It is evident that the cost per business as a result of these rule amendments is much smaller than three-tenths of one percent of annual income or one percent of annual payroll of the affected businesses.

1: BACKGROUND AND INTRODUCTION

1.1 The background of the electrical safety issue

Electricity is essential to modern living as it is used everywhere, by almost all people across the world, each and every day. However, electricity is also widely recognized as a serious workplace hazard with the capability of exposing workers to electrical shock, burns, fires, and explosions. According to the Bureau of Labor Statistics (BLS), an average of 191 workers were killed each year from contact with electric current, between 2007 and 2009. During the same 3-year span, an estimated average of 2,550 nonfatal electrical events occurred involving days away from work in private industry. Electricity is also a major public safety issue as it is the cause of many non-work related incidents. The U.S. Consumer Product Safety Commission (CPSC) reported there was an estimated average of 70 non-work-related electrocution fatalities associated with the use of consumer products between 2007 and 2009. In addition, electrical failure or malfunction was a factor in an estimated 43,700 home fires in 2011 alone, leading to 430 deaths, 1,620 injuries, and \$1.5 billion in property damage across the U.S.²

The National Electrical Code (NEC) sets the standard for safe electrical installations and inspections in homes, businesses, industries and institutions to protect people and property from electrical hazards. It provides up-to-date electrical safety requirements that govern electrical work and has been widely recognized as the national consensus standard for the electrical industry since 1911. Like many other states, the Washington law (RCW 19.28) directs the Department of Labor and Industries to review the electrical rules on a regular basis to ensure they are consistent with the most recent national standards. To this end, the department makes necessary amendments to the existing electrical regulations following the adoption of each new edition of NEC standards which occurs every three years. The only exception was the NEC 2011 edition which did not initiate an agency rulemaking on the electrical regulations due to the Governor's Executive Orders 10-06 and 11-03 to suspend non-critical rulemakings.

² Data Source: National Fire Protection Association (NFPA), January, 2013.

1.2 The description of this rulemaking

The Department of Labor and Industries has statutory authority to adopt reasonable rules in furtherance of safety to life and property. Specifically, the Electrical Program within the department reviews the NEC every three years or each code cycle to ensure the rules align with the new code requirements and to propose necessary changes, prior to the publication of the NEC. The 2014 edition of the NEC was issued by the National Fire Protection Association (NFPA) on August 1, 2013 and took effect on August 21, 2013. To date, 15 states, including Washington, have started the process to update their administrative rules through which the NEC is adopted to reference the newest edition.

This rulemaking proposes changes to the chapter WAC 296-46B as a result of the adoption of the 2014 NEC and other recommendations from stakeholders. The department filed a CR-101 on September 24, 2013, which conveyed the intent to explore changes to the existing electrical rules. From October 1 through October 31, 2013, the department solicited external stakeholders' proposals for additions or revisions to the rules. On December 19, 2013, the Technical Advisory Committee (TAC) comprised of industry stakeholders and department staff met to review all proposals and provide advice to the department. During the Electrical Board regular meeting on January 30, 2014, the Board considered the results of the TAC meeting and made its own recommendations on the proposal. The final draft of the proposed rules was made available soon thereafter and a public hearing will be held on April 10, 2014.

While the vast majority of the amendments are proposed to reflect the updates made in the 2014 NEC standards, the program does not adopt the NEC code into the electrical rules in its entirety. Exceptions and differences may result from stakeholders' proposals resulting in rules that are more or less restrictive than the NEC standards and also stakeholders' proposals for alternative methods to a requirement that may not be addressed in the NEC. When these proposals are adopted by the department based upon recommendations from the TAC and the Board, differences develop between the department's electrical rules and those of the NEC. Also, there are some NEC changes that may have unintended consequences and must be addressed in the proposed rules. In summary, the following changes are the ones not in the NEC or other relevant national consensus standards but proposed by the department:

- WAC 296-46B-210(008)(A) Dwelling units GFCI requirements: (2) All fixed electrical equipment with exposed grounded metal parts within an enclosed shower area or within five feet of the top inside edge of a bathtub must have ground fault circuit interrupter (GFCI) protection.
- WAC 296-46B-705 Interconnected Electric Power Production Sources: For utility interactive systems, any person making interconnections between a power production source and the utility distribution network must consult the serving utility and is required to meet all additional utility standards.
- WAC 296-46B-900(1)(c) Electrical plan review: (iv) “Enhanced Service Facility” (ESF) means a facility, or a portion of a facility, that provides treatment and services to persons for whom acute inpatient treatment is not medically necessary and who have been determined by the department to be inappropriate for placement in other licensed facilities due to the complex needs that result in behavioral and security issues. For the purposes of this chapter, an enhanced services facility is not an evaluation and treatment facility certified under chapter 71.05 RCW.
- WAC296-46B-900 Electrical plan review for educational, institutional or health care facilities/buildings: (3)(a)(vi) For installations outlined in (ii), (iii), and (v) above to be considered, the following must be available to the electrical inspector before the work is initiated:
 - (A) A clear and adequate description of the project’s scope;
 - (B) A load calculation(s);
 - (C) What the load changes are, providing both before and after panel schedules as needed; and
 - (D) Provide information showing that the service and feeder(s) supplying the panel(s) where the work is taking place has adequate capacity for any increased load and has code compliant overcurrent protection for that supply.
- WAC 296-46B-935 Administrator certificate. General. (1) The department will deny application, renewal, change of assignment, or reinstatement of an administrator or master electrician certificate if an individual owes money as a result of an outstanding final judgment(s) to the department.

2. ASSESSING ECONOMIC IMPACT BY EMPLOYMENT SIZE

The Regulatory Fairness Act, RCW 19.85.040(1) requires the department to determine whether a proposed rule will have a disproportionate cost impact on small businesses if a small business economic impact statement (SBEIS) is needed. The act directs the department to compare “the cost of compliance for small businesses with the cost of compliance for the ten percent of businesses that are the largest businesses”.

This SBEIS report compares the average cost per affected worker between small and larger businesses for each new or increased requirement beyond the baseline standards. The purpose here is to best estimate the extent to which the disproportionate impact, if any, is on small businesses rather than to estimate the total costs to the affected businesses as a whole.

2.1. Comparison of costs associated with GFCI protection in a bathroom

Under the proposed rules, all fixed electrical equipment with exposed grounded metal parts within an enclosed shower area or within five feet of the top inside edge of a bathtub must have GFCI protection. This requirement is not in the NEC but it has gained unanimous support from the TAC. It was proposed by the department to address the safety issue concerning the trend towards installing fireplaces and wall mounted TVs in the bathtub areas. GFCIs are electrical safety devices that trip electrical circuits when they detect ground faults or leakage currents and can effectively prevent residential electrocutions. In regard to the costs of this requirement, the wiring of such equipment is necessary whether GFCI protections are required or not. The additional cost is due to the price difference between a GFCI device and a non-GFCI device. A review of selling prices among local and online hardware stores shows the cost differential for choosing a GFCI receptacle or breaker over a non-GFCI device ranges from \$20 to \$50. Roughly, each installation will cost \$35 extra.

Because this cost will be reflected in the final housing costs and passed on to home buyers, individual consumers rather than the companies that install the equipment will bear this cost. Therefore, the department does not believe there is any disproportionate cost impact on small businesses in compliance with this requirement.

2.2. Comparison of costs associated with electrical plan review

Under the proposed rules, for certain projects involving educational, institutional or health care facilities to be exempt from formal electrical plan review, the contractor must provide evidence of the conditions on which the exemption is met. The department has always had the ability to ask for such information on a case by case basis, and many contractors are already in compliance by having the required information available. What the rule modification does is clarify what information will be required so that customers can be better prepared. This may save time and benefit both customers and the department by avoiding a lot of back and forth correspondence.

That being said, there will be increased administrative burden for contractors who are not already in compliance with this requirement. However, the added cost is expected to be minor for an individual project as we estimate that normally it will only take an electrical engineer about two hours to prepare the required information in a written document. In addition, this cost can always be passed on to the consumers. Therefore, the department does not believe there is any disproportionate cost impact on small businesses in compliance with this requirement

2.3. Comparison of costs associated with the eligibility of an electrical administrator to be assigned

Under this section, an administrator or a master electrician who owes a final judgment to the department cannot be assigned by electrical contractors. This change was proposed by the department and has unanimous support from the TAC. With respect to the cost impact, this amendment will not impose any new costs on a vast majority of current or new administrators or electricians. There are two reasons for this determination. First, a very small number of current administrators with valid certificates owe money to the department as a result of outstanding final judgments. Second, under the existing rules, the department will deny an application or renewal of a certificate if an individual owes money to the department. Without a valid certificate or a successful renewal of a certificate, an individual automatically becomes ineligible for being assigned to any electrical contractors. Therefore, the only individuals expected to be affected by this rule amendment are those who owe money to the department and attempt to be assigned to a contractor.

However, these costs are borne by workers, not the employers that hire them. Therefore, the proposed change is not expected to have any disproportionate cost impact on small businesses.

2.4. Comparison of costs associated with interconnected electric power production sources

Under this proposed amendment, any person making interconnections between a power production source and the utility distribution network for a utility interactive system must consult the serving utility and is required to meet all additional utility standards. This is a new section to the electrical rules, but it does not represent new requirements. It simply combines the same standard for generators under Section 445 and solar photovoltaic systems under Section 690 of the current rules into a new section, and clarifies that any utility interactive system must comply with the requirement. Therefore, there is no new cost associated with this rule amendment.

3. ACTIONS TAKEN TO REDUCE THE IMPACT OF THE PROPOSED RULES ON SMALL BUSINESS

The above analysis indicates that it is not likely that small businesses will bear a disproportionate share of regulatory burden from the proposed rule changes. Therefore, L&I is not required to take any actions to mitigate the costs for small businesses.

4. SMALL BUSINESS INVOLVEMENT IN THE RULEMAKING PROCESS

The department has made substantial efforts to involve small businesses and their representatives at various points in the rulemaking process. These efforts include:

(1) During a 31-day stakeholder proposal period from October 1, 2013 through October 31, 2013, the department received and considered numerous proposals for additions or revisions to

the rules from stakeholders, many of which are small businesses, or the representatives of small businesses.

(2) The department established a general Technical Advisory Committee (TAC) consisting of thirty-two appointed industry experts and interested groups, including small business representatives, to review and make suggestions on proposals from stakeholders. Then a TAC meeting was held in the Tukwila office in December, 2013. The TAC reviewed and identified proposals that may have an economic impact on other specialties and small businesses.

(3) During its quarterly meeting in January, 2014, the Electrical Board, which was created by law, reviewed the draft and made its recommendations on the proposed rules. This Board consists of a number of business and trade representatives and associations. Some of these members represent small businesses, and their engagement in this rulemaking activity reflects the involvement of small businesses.

(4) The department will also hold a public hearing for these proposed provisions at the beginning of April this year. During the hearing, the stakeholders, including many small businesses, will have another opportunity to provide their feedback on the proposal.

5. INDUSTRIES LIKELY TO BE REQUIRED TO COMPLY WITH THE RULE

These proposed rule changes will mainly affect electrical contractors and other companies that hire electrical workers, as well as owners of various facilities where these electrical regulations apply. Other involved businesses may possibly be affected.

6. NUMBER OF JOBS CREATED OR LOST

The department does not anticipate that a significant number of jobs would be created or lost as a result of compliance with these proposed rule changes. The cost impact of these amendments on

any single business is expected to be very minor. Therefore, they would not trigger any hiring or firing decisions for the regulated companies.

7. CONCLUSIONS

The department concludes that:

1. The proposed rule changes analyzed in this report will not impose any significant disproportionate impact on small businesses. The average cost of these amendments to a single business is insignificant.
2. The proposed rules will impose less than minor costs on average on all affected businesses. Therefore, a SBEIS is not required and this document is prepared for general information purposes only.

8. REFERENCES

Hirschbold, M. F. and Stieva, G. (2010). *Automating emergency power supply system testing in hospitals*. White Paper, Schneider Electric.

Karels, T. R. (2003). *Memorandum on the economic considerations for GFCIs in new residential installations*. U.S. Consumer Product Safety Commission, Bethesda, MD.

Office of Fair and Safe Work Queensland (2002). *Review of the electrical safety regulation*. Department of Justice and Attorney-General, Queensland, Australia.

OSHA (2012). *Injury and illness prevention programs white paper*. U.S. Department of Labor, Washington, D.C.

OSHA (2007). *29 CFR Part 1910: Electrical standard final rule*. Federal Register, Volume 72(30), Washington, D.C.