
PRELIMINARY COST-BENEFIT ANALYSIS

Chapter 296-150I WAC, Manufactured Home Installer Training & Certification Program; and Chapter 296-150M WAC, Manufactured Homes

SEPTEMBER 7, 2021

RESEARCH AND DATA SERVICES

Questions: contact Kerwin Julien. Email: juln235@lni.wa.gov

Contents

Chapter 1: Requirement of the Administrative Procedure Act	4
Chapter 2: Background of This Proposed Rule	5
Chapter 3: Description of the Affected Businesses and Workers	11
Chapter 4: Probable Cost of the Proposed Rule.....	13
4.1 Cost of verification of site preparation	13
4.2 Cost of certification tags for approved homeowners	14
4.3 Cost of monthly reporting for homeowners	16
4.4 Cost of additional support to homes in long-term storage or on display requirement	17
4.5 Total quantifiable costs of the proposed rule amendments	18
4.6 Other probable cost considerations	18
Chapter 5: Probable Benefits of the Proposed Rule.....	23
5.1 Quantitative Benefits	23
5.1.1 Benefits from a reduction in the number of injuries and fatalities	25
5.2 Qualitative Benefits	27
Chapter 6: Cost-Benefit Determination	29
Chapter 7: References	30

DRAFT

List of Figures

Figure 1: Manufactured home installations based on county permit data	14
---	----

List of Tables

Table 1. Major industries impacted by the proposed rule.....	11
Table 2. Occupations most likely impacted by the proposed rule	12
Table 3. Annual cost of site verification requirement.....	14
Table 4. Cost of certification tags to homeowners	15
Table 5. Cost of monthly reporting.....	16
Table 6. Total cost of home additional support requirement	18
Table 7. Total Cost of the proposed rule.....	18
Table 8. Major job tasks and potential hazards in the installation of a FAS	24
Table 9. Benefits from a reduction in injuries to MH workers	26
Table 10. Benefits from a reduction in nonfatal injuries to homeowners.....	26
Table 11. Summary of benefits from a reduction in injuries	27

Acronyms

ANSI	American National Standards Institute
CFR	Code of Federal Regulations
CMHI	Certified Manufactured Home Installers
CPWR	The Center to Protect Workers' Rights
DAPIA	Design Approval Primary Inspection Agency
DOSH	Division of Occupational Safety and Health
FAS	Factory Assembled Structure
HUD	U.S. Department of Housing and Urban Development
IBTS	Institute for Building Technology and Safety
MH	Manufactured Homes
MHCSS	Manufactured Home Construction and Safety Standards

L&I Department of Labor and Industries
RCW Revised Code of Washington
SEBA SEBA Professional Services, LLC
WAC Washington Administrative Code

DRAFT

Chapter 1: Requirement 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 rule amendments to chapter 296-150I WAC, Manufactured Home Installer Training & Certification Program, and chapter 296-150M WAC, Manufactured Homes, that do not fall under the exemptions described above.

Chapter 2: Background of This Proposed Rule

The Factory Assembled Structures (FAS) Program (the program) within the Department of Labor & Industries (L&I) is proposing an update to chapter 296-150I WAC, Manufactured Home Installer Training & Certification Program, and chapter 296-150M WAC, Manufactured Homes. This rulemaking was initiated by the FAS Program to (i) update existing rules for compliance with U.S. Department of Housing and Urban Development (HUD) regulations; (ii) address findings from the review of the FAS rules and standards for manufactured housing installations (SEBA report) with necessary revisions to existing rules for L&I to meet its contractual obligations; and (iii) make other general rule updates.

In 2017, SEBA Professional Services LLC (SEBA) reviewed the FAS installer program rules and standards for compliance with the HUD regulations (the “SEBA report” or the “report”).¹ The review identified six (6) findings, three (3) of which require revisions in order for the FAS rule to be fully compliant.

This rulemaking addresses the first three findings as below:

1. The state’s procedure that allows homeowners to install their own manufactured homes does not ensure that trained and certified installers certify every installation of all new manufactured homes.
2. The installation standard adopted by the State of Washington needs to delete all references that allow for installations that have not been approved by the manufacturer of the home and its associated DAPIA (24 CFR Part 3285.2 and 24 CFR 3285.3), and all code provisions or references to the ANSI 225.1 Standard that do not meet the minimum requirements of the Model Manufactured Home Installation Standards (24 CFR Part 3285) (i.e. omission of the ground cover (vapor retarder) in paragraph (1)(k), et cetera).
3. The State of Washington’s installation program omits site preparation from the responsibilities of the installers, and therefore is not in full compliance with the installation standards (24 CFR Part 3285.107(a)).

¹ As part of the agency’s contract with HUD, HUD’s subcontractors regularly audit the various functions which are subject of the rulemaking. In 2017, SEBA Professional Services LLC (SEBA) reviewed the department’s FAS installer program rules and standards for compliance with HUD regulations, and identified 6 findings that require revisions in order for the program to be in full compliance.

During follow up conversations with HUD, finding 4 was rescinded and does not require changes. The program has determined that finding 5 is in error and that L&I conforms to federal rules on the issue. Due to the nature and scale of the sixth finding, the program has determined it would not require rule changes, but will need to be addressed with HUD at a later date, so it is not part of this analysis.

To support the development of this rule, L&I held seven (7) stakeholder meetings (in-person and via Zoom), from May 2019 to November 2020. At these meetings, stakeholders discussed the findings from the SEBA report related to chapters 296-150I and 296-150M WAC.

The proposed amendments will adopt clarifying language, new definitions, and new sections needed to bring the current rules up-to-date and in compliance with HUD regulations. In addition, the proposed amendments will help L&I meet its contractual obligations and federal mandates, increase compliance of federal requirements, and enhance consumer protections.

The following are the main proposed amendments in this rulemaking:

WAC 296-150I-0010:

- Add clarity to the scope of the rule in accordance with chapter 43.22A RCW and RCW 43.22.440.

WAC 296-150I-0020:

- Add the following new definitions: *Approved homeowner, Authorized representative, Bottom board, DAPIA, Dealer, Final infraction, HUD, and IBTS.*
- Create new subsections (16), (17), (21), (22), (24), and (26), and add the respective new definitions: *Installation, Local enforcement agency, Mobile home, Notice of infraction, Retailer, and Vapor retarder.*
- Repeal the following definitions: *Compliance inspector, Extension of the pressure relief valve for the water heater, and Mobile or manufactured home installation.*

WAC 296-150I-0100 through 296-150I-0160:

- Relocate an existing rule to a new section, WAC 296-150I-0105 “Manufactured home installation – Specialty work by licensed electricians and plumbers.”

- Edit language for clarity and consistency.
- Edit subsection (1) in WAC 296-150I-0110 to require homeowners to attend and pass an installer training class prior to commencing the installation of a manufactured home.
- Edit subsection (1) in WAC 296-150I-0130 to require the home installer to verify the acceptability of the site preparation before commencement of work.
- Edit WAC 296-150I-0140 to (i) relocate the requirement that certified installers indicate the installation work performed or supervised on the installer tag; and (ii) add the requirement for homeowners performing their own installation work to purchase a certification tag for use on their home.
- Repeal WAC 296-150I-0150, providing for the sale of installer tags by cities and counties.
- Edit subsection (3) in WAC 296-150I-0160 to include approved homeowners in the installer tag requirements, and to repeal the exemption for homeowners from the installer tag requirements.

WAC 296-150I-0200:

- Amend title to eliminate the question format.
- Edit language for clarity and consistency.

WAC 296-150I-0210:

- Amend title to eliminate the question format.
- Repeal subsection (1)(f) concerning the transfer of unused installer tags to the new owners of a dealership.

WAC 296-150I-0220, 296-150I-0230, 296-150I-0240, 296-150I-0250, 296-150I-0260, 296-150I-0270, 296-150I-0280, and 296-150I-0290:

- Amend title to eliminate question format.

WAC 296-150I-0300:

- Amend title to eliminate question format.
- Edit language for clarity and consistency.

- Add new language to subsection (2)(b) to align with HUD regulations.

WAC 296-150I-0310:

- Edit language for clarity and consistency.
- Edit language for alignment with 24 CFR 3286.803(b)(1): Manufactured home installation standard.
- Add new language for alignment with 24 CFR 3285.203, CFR 3285.1, and 3852.2: Site drainage.
- Edit language to eliminate redundant wording, and to add the requirement that clearance must be at eighteen inches at heat duct cross over locations.
- Add new subsection requiring roof ridge cap or ridge vent to be installed as a required in the manufacturer's installation instructions.
- Add new subsection requiring a carbon monoxide detector be installed in some relocated manufactured homes to conform to HUD requirements in MHCSS 3280.211, effective July 12, 2021.
- Edit language to change the required installation standard from ANSI A225.1 to CFR Part 3285.

WAC 296-150I-0320:

- Amend title to reflect 24 CFR Part 3285 standard, and update the manner in which to obtain a copy of the standard.

WAC 296-150I-0330:

- Amend title to eliminate question format.
- Add new subsection (3) requiring manufactured homes in storage or on display for longer than ninety days to be supported at each column and along each rim joist at support points identified by the manufacturer.

WAC 296-150I-0340:

- Amend title to eliminate question format.

WAC 296-150I-0350:

- Amend title to eliminate question format.
- Edit language to eliminate redundancy and eliminate the chapter 43.22A RCW reference.

WAC 296-150I-0360:

- Amend title for consistency and to eliminate question format.
- Add new subsection (2) mandating that installation work shall not be performed until a permit has been issued from the local enforcement agency.

WAC 296-150I-0370:

- Amend title to eliminate the question format.
- Edit language to first paragraph for clarity and alignment with RCW 43.22A.020, and in second paragraph for clarity and to eliminate redundant wording.

WAC 296-150I-0375:

- Create new section, “State monitoring of manufactured home installations and inspections.”

WAC 296-150I-0380:

- Amend title to eliminate question format.
- Edit language in first paragraph to add that when the manufacturer’s installation instructions are not available for a secondary installation, the installer shall provide an affidavit in lieu of the instruction manual.
- Edit language for clarity.

WAC 296-150I-0390:

- Amend title to eliminate question format.
- Edit language for clarity and consistency.

WAC 296-150I-0400:

- Amend title to eliminate the question format.

- Edit language to replace ANSI standard with 24 CFR Part 3285 – Model Manufactured Home Installation Standards.

WAC 296-150I-0410:

- Amend title to eliminate the question format.
- Relocate for clarity, the requirement that electrical and plumbing repairs shall be performed by a Washington state licensed electrician and/or plumber.
- Add language requiring a DAPIA approved repair plan must be provided to the FAS plan review staff for verification that it is suitable for use.
- Edit language to correct grammar and eliminate unnecessary wording.

WAC 296-150I-3000:

- Edit language to provide the agency with flexibility on penalty decisions.
- Edit language for clarity and consistency.
- Add a new permit fee to reference WAC 296-150M-3000 for Manufactured Home Installation Permit – only in cities and counties that have inspection contracts with L&I.

WAC 296-150M-0020:

- Edit definition of “ANSI” to remove the reference to the ANSI standard to include the address.
- Amends language in the definition of “Department” to correct the mailing address of the FAS Program.

WAC 296-150M-0100:

- Edit language to eliminate reference to the ANSI standard.

WAC 296-150M-3000:

- Add a new permit and fee to the fee schedule: Manufactured home installation inspection permit.

Chapter 3: Description of the Affected Businesses and Workers

Installation of manufactured homes involves various processes which include site preparation, foundation laying, to home placement and anchoring, and connection to utilities. This is followed by a building inspection. The entire process could take a few weeks to several months depending on potential issues such as with size and features of the home, permitting or repair of damaged parts/sections of the home. Table 1 below identifies the industries that are most likely involved in this area.

Table 1. Major industries impacted by the proposed rule²

Industry	NAICS
Manufactured (mobile) home dealers	453930
Manufactured home (mobile home) manufacturing	321991
Lessors of Other Real Estate Property	531190

Based on the proposed rule changes, the workers most likely to be impacted are Manufactured Building and Mobile Home Installers, and Contractors/Construction Laborers involved that perform alterations/modifications (see Table 2). In addition, homeowners are identified to be significantly impacted by the proposed changes, although they are not a worker class and no occupational information is available for them.³

² Certain businesses and workers involved in MH installations may also be involved in residential constructions.

³ Other types of workers who operate specifically within the installation of manufactured homes, such as electricians, electrician helpers, plumbers, etc., may also be affected by the proposed changes, but they are not included in this analysis given their infrequent involvement in this business.

Table 2. Occupations most likely impacted by the proposed rule⁴

Occupation	SOC Code	Employment (2019)	Avg. Annual Growth Rate	Projected Employment (2028)	Average Wage
Manufactured Building and Mobile Home Installers	49-9095	340	1.46%	387	\$21.43
Contractors involved in MH alterations	Various	1,488	0.80%	1,599	\$27.41

⁴ Source: The employment numbers for contractors involved in MH alterations and installers were estimated and provided by the FAS program. The average annual growth rate was based on Employment and Security Department (ESD) projection data (<https://www.esd.wa.gov/labormarketinfo/projections>).

Chapter 4: Probable Cost of the Proposed Rule

The estimated costs in this analysis, if any, represent only the new costs of complying with the proposed rules for the affected parties, excluding realized potential costs associated with or originating from the current practices, or “baseline” standards under existing laws, rules or national consensus standards. Therefore, the costs that can be attributed to or are insignificantly different from these baseline standards are not analyzed or factored into our estimates.

4.1 Cost of verification of site preparation

The addition of subsection (1) to WAC 296-150I-0130 requires a certified manufactured home installer to verify the acceptability of the site preparation before commencing any installation work. This amendment was proposed to address the third SEBA audit finding indicated in Chapter 2.

This proposed requirement is new and would impose a cost upon impacted businesses. In order to assess this cost, L&I must determine the annual number of installations, the amount of time needed to satisfactorily verify the acceptability of the site for each installation, and the total labor cost of completing this task.

Using the historical installation data from the 21 counties and the average growth rate of 5 percent, L&I projects that approximately 18,915 installations will be completed over the next ten years, or 1,892 installations each year (see Figure 1). Based on the processes involved in a site verification, L&I estimates that it would typically take 1-2 hours to perform this task.⁵ Given the average hourly rate of \$21.43 for a Manufactured Building and Mobile Home Installer, and the expected amount of time needed to comply with this requirement, L&I estimates this requirement would impose approximately \$405,349 to \$810,697 upon the affected parties. The annualized cost of this requirement over the projected 10-year period is estimated at \$39,748 to \$79,496 (see Table 3).

⁵ The amount of time needed to complete the verification process was estimated by L&I’s internal technical experts.

Figure 1: Manufactured home installations based on county permit data

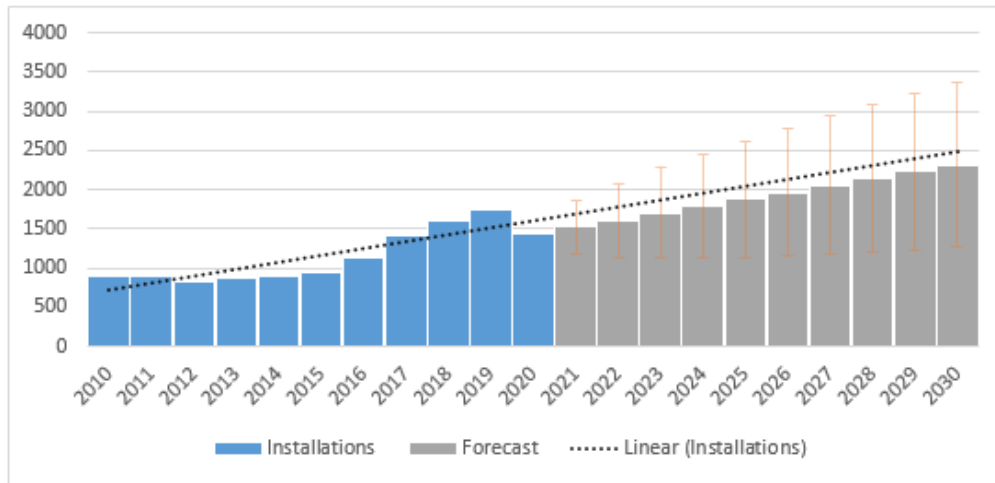


Table 3. Annual cost of site verification requirement

Estimated number of installations over 10 years	18,915
Verification time per installation	1 - 2 hours
Labor cost per hour	\$21.43
Cost of site verification for all installations	\$405,349 to \$810,697
Annualized cost of site verification ⁶	\$39,748 to \$79,496

4.2 Cost of certification tags for approved homeowners

Two proposed changes to WAC 296-150I-0140 in this rulemaking address the requirements of obtaining certification tags for approved homeowners. First, proposed language in WAC 296-150I-0140(1) now includes an ‘approved homeowner’ to the list of those who may be allowed to purchase an installer certification tag; and is responsible for compliance with the requirements of that chapter. Previously homeowners were not required to be an approved homeowner as certified by L&I. This requirement is therefore new and does impose a cost upon homeowners. Second, amendments to WAC 296-150I-0140(2) now require approved homeowners to submit an application to L&I on a department approved form in order to purchase an installer certification tag.

⁶ Using a 5% discount rate.

Homeowners performing their own installation work and seeking to purchase an installer certification tag now have the added cost of having to first be approved by L&I. Though being an approved homeowner is a prerequisite, it is a cost exempt requirement (see section 4.6.1 below), so it would not trigger a cost when assessing this proposed requirement. The total cost of the subject requirement is therefore determined primarily by the number of homeowner installations, the cost of an installer tag, and the cost involved in the application.

In section 4.1 above, L&I projected a total of 18,915 installations over a 10 year period. Historically, very few if any homeowners performed their own installation work. Given the specialized and hazardous nature of installing a manufactured home, L&I conservatively assumes that approximately one percent of total installations are actually performed, at least partially, by homeowners. This represents approximately 19 homeowner installations annually doing full or partial installations, or a total of 188 over the next 10 years. L&I has set the cost of an installation tag at \$9.40. The application to purchase an installation tag takes less than 5 minutes to complete and can be submitted to L&I electronically⁷, which would not impose any significant cost on impacted homeowners.

Based on all this information, the total cost of obtaining certification tags requirement for impacted homeowners is estimated at \$1,767. This total is based on the 10 year projection of installations at a 5 percent average annual growth rate. Annualized, the estimated cost of this requirement is \$173 per year (see Table 4).

Table 4. Cost of certification tags to homeowners

Projected total number of installations over 10 years	18,915
Estimated percent of home installations by homeowners	1%
Estimated number of home installations by homeowners over 10 years	188
Cost of a certification tag	\$9.40
Total cost of obtaining certification tags over 10 years	\$1,767
Annualized cost of certification tags	\$173

⁷ Based on estimates by L&I technical experts.

4.3 Cost of monthly reporting for homeowners

WAC 296-150I-0170 adds approved homeowners to the list of those subject to the requirement of submitting a monthly report to L&I on a form approved by L&I relative to all installer certification tags issued. Previously this requirement only applied to certified manufactured home installers and manufactured home retailers.

The addition of approved homeowners as a class subject to this requirement imposes a new cost. In order to estimate this cost, L&I must determine (i) the number of homeowners impacted by this amendment, (ii) the labor time required to complete the report, and (iii) the cost of submitting this report.

The number of homeowners impacted by this amendment would be the same as identified in section 4.2 above, assuming one homeowner per installation - approximately 188. The reporting requirement of the tag is to indicate what work was done and where the tag was used. This would require a typical homeowner using a single tag to submit a single report to L&I. L&I estimates that it would take less than ten (10) minutes to complete and submit the required report.⁸ Impacted homeowners are not expected to incur any other cost of submitting this report because (i) no special skills or software beyond a standard computer is needed to complete the report; and (ii) submission of the report can be done electronically via email. Therefore, only a labor-time cost might be incurred. ‘Homeowners’ are not a worker class, so no wage data is available to assess this cost component. In order to assess a reasonable cost of this requirement, L&I approximates the hourly rate of the homeowner as one of a typical Office and Administrative Support Staff – one of the worker classes most likely to perform this task.⁹

Table 5. Cost of monthly reporting

Projected number of impacted homeowners over 10 years	188
Estimated time per report (minutes)	10
Total report time (minutes)	1,880
Hourly labor cost	\$19.86

⁸ Based on estimates by L&I’s technical experts.

⁹ The base median hourly wage for this occupation, excluding any benefits component, is \$19.86. Based on 2019 OES Report, [ESD,WA](#).

Total cost of reporting requirement over 10 years	\$622.28
Total annualized cost of reporting	\$61.08

For this requirement, L&I estimates the total cost to approved homeowners over a ten-year forward projection to be \$622.28. On an annualized basis this cost is estimated to be \$61.08 (see Table 5).

4.4 Cost of additional support to homes in long-term storage or on display requirement

Requirements for support to homes in storage or in display already exist. The addition of subsection (3) to WAC 296-150I-0330 requires that manufactured homes in storage or on display for more than ninety (90) days must have additional support at each centerline column and along each rim joist at the manufacturer’s identified support points.

This requirement is new and will impose a new cost upon impacted businesses that previously were not subject to this protection measure. In order to assess this cost, L&I must first determine the number of homes in storage or on display for more than 90 days; and second, the average cost of supporting those homes as stated in the subsection.

Currently there are approximately 30 dealers and a half dozen development companies that act on behalf of dealers in their respective housing communities. To the best knowledge of L&I, we believe each of these companies have at least one model of each category of manufactured home on display, so the total number of homes on display would be 108.¹⁰ L&I also estimates that 3,030 to 3,950 of all homes shipped and produced over the 10-year period would not be immediately installed, but be put into some level of storage. Of these, L&I assumes that 90 percent to 95 percent are due to temporary construction delays and are placed in short-term storage. More serious, but less frequent, delays would result in long-term storage. As shown in Table 6 below, the average number of homes in long-term storage is estimated at 5 to 10 percent of total homes not installed. Based on this rate, the number of homes impacted by this requirement is estimated at 152 to 395, or 15.2 to 39.5 each year. L&I estimates the cost for additional support of a home in storage, or on display for ninety (90) days or more, to be around \$1,000 per home.¹¹

¹⁰ There are currently 3 main manufactured home categories: Single-wide, Double-wide, and Triple-or Multi-wide.

¹¹ Based on estimates by L&I’s technical experts.

Table 6. Total cost of home additional support requirement

Description of cost factors	Value
Estimated number of homes on display >90 days	108
Labor and material support cost per home	\$1,000
Total cost of support to homes on display > 90 days	\$108,000
Estimated number of homes in storage > 90 days	152 to 395
Total cost of support for homes in storage > 90 days	\$152,000 to \$395,000
Total annualized cost of support	\$39,316 to \$84,048

Based on these cost components, L&I determines that the annualized cost of compliance with this requirement to be around \$39,316 to \$84,048.

4.5 Total quantifiable costs of the proposed rule amendments

As presented in Table 7 below, the total quantifiable costs of the proposed rule amendment is estimated at \$559,737 to \$1,208,086, with annualized costs of \$79,298 to \$163,778.

Table 7. Total Cost of the proposed rule

Description	Value
Cost of site preparation verification	\$405,348 - \$810,697
Cost of certification tags	\$1,767
Cost of monthly reporting	\$622
Cost of additional support to homes on display or storage	\$152,000 - \$395,000
Total costs	\$559,737 - \$1,208,086
Total annualized costs	\$79,298 - \$163,778

4.6 Other probable cost considerations

4.6.1 A proposed new definition in subsection (4) to WAC 296-150I-0020 and proposed language in subsection (1) to WAC 296-150I-0110 addresses the first finding from the SEBA audit and requires a homeowner attend and pass an installer training class prior to starting their own installation of a manufactured home. This proposed requirement is new for homeowners who previously could work on their own home without having to obtain certification or approval status if the home is intended for use as the primary residence of the homeowner. The ‘for use as a

primary residence' clause in essence operated as an exemption to the general requirement of being certified or approved for individuals installing manufactured homes.

In order to determine whether or not this requirement would impose a new cost, L&I must compare the proposed language with the current federal or state requirements. Under current federal regulation 24 CFR 3286.803(b)(3), all installers (including homeowners) must be trained, licensed, certified, or otherwise approved. This standard clearly indicates that 'approval' of installers is a federal standard. The process of becoming an approved homeowner is the same as becoming a certified home installer, which is the basic process for meeting the federal standard. Based on this information, L&I determines that the requirement is exempt from cost analysis under RCW 34.05.328(5)(b)(iii) because the new requirement is simply adopting federal standards.

4.6.2 Proposed amendments to WAC 296-150I-0140 address certification tag requirements for certified installers. First, it eliminates all use of "on-site work and equipment installation" to simply "installation", and removes the provision for the local enforcement agency to sell tags. Second, the certified installer must indicate the work performed or supervised on the installer tag. In both cases, the amendments serve as clarification language without changing its effect, and so does not impose a cost upon impacted businesses or workers. A third amendment impacting certification tags was made to WAC 296-150I-0140(3). This amendment updates the rule by eliminating the manufactured home retailer as an entity which may issue certification tags. Based on this procedural change L&I determines that this does not result in a cost implication and is exempt from analysis under RCW 34.05.328(5)(c)(iii)(B).

4.6.3 Amendments to WAC 296-150I-0160(2) eliminates the temporary location requirement and adds the chassis main I-beam directly adjacent to and visible from the crawl space, as an alternative location to place an installer certification tag. This language simply adds an alternative for where an installer certification tag can be placed and is determined to be exempt from cost analysis under RCW 34.05.328(5)(c)(iii). Rather than being a cost, L&I believes this to be a benefit since it eliminates the need to relocate the tag from the temporary location (under the current rule) to another location.

4.6.4 The proposed new subsection (2)(e) to WAC 296-150I-0310 requires carbon monoxide alarms to be installed in accordance with section 3280.211 of the Manufactured Home

Construction and Safety Standard (Title 24 CFR part 3280), and allows carbon monoxide detectors installed in relocated homes to be battery operated. This proposed rule would impact producers of manufactured homes in the state that would have to ensure their manufactured homes are equipped with the carbon monoxide detectors installed according to standard. Homes shipped to Washington would have met those federal standards and so no significant economic costs are expected to be incurred locally.¹² Section 3280.211, which governs this requirement, is a new HUD standard going into effect on July 12, 2021. As this section is simply adopting federal standards for carbon monoxide installations, this proposed requirement is exempt from analysis under RCW 34.05.328(5)(b)(iii).

4.6.5 Amendments to WAC 296-150I-0160(3) adds “approved homeowners” to the list of workers to whom the local enforcement agency may not issue final approval of a home installation until certification tags have been affixed. It also removes the exception of requiring certification tags for a homeowner when performing installation work on their own home. The probable new cost from the amendment here now requires the homeowner to (1) be approved, and (2) to obtain certification tags. As stated earlier, to become approved the homeowner must take and pass an installer training class, a requirement from proposed WAC 296-150I-0110(1), and a federal standard as per 24 CFR 3286.803(b)(3). Obtaining a certification tag when performing own home installations is a requirement from WAC 296-150I-0140. The probable associated costs therefore would have been incurred from those requirements and so this amendment would not impose an additional cost on homeowners.

4.6.6 An amendment to WAC 296-150I-0200(3) proposes to include an audit of the usage of installer certification tags. Previously, only installer certification tag reports were audited. This proposed amendment simply clarifies the scope of the areas L&I audits, and L&I believes that the nature of this change is exempt from cost analysis under RCW 34.05.328(5)(c)(iii). Additionally, this proposed amendment would not impose any additional cost since L&I does not charge for audits.

¹² With an average price of \$25 - \$55, the cost of adding a carbon monoxide alarm is insignificant to the overall cost components of a manufactured home.

4.6.7 An amendment to WAC 296-150I-0300(2) adds “fire sprinkler requirements” as an additional example of the type of requirements common to local Washington state jurisdictions, and corrects the reference to WAC to 296-150I-0340. L&I does not believe any cost implication exists from this amendment since in the former, the language is simply adding an additional example, and in the latter, the update is correcting a reference.

4.6.8 The rulemaking amends WAC 296-150I-0310(1)(e) to address the second finding from the SEBA audit whereby it replaces the ANSI A225.1, 1994 edition, section 3 with 24 CFR Part 3285, Subpart C of the Model Manufactured Home Installation Standards. The standard is an option for the site preparer in lieu of the manufacturer’s installation manual. The previous standard is now obsolete, and the proposed standard is a federal standard. This amendment is adopting a national standard and as a result exempts the proposed change from analysis under RCW 34.05.328(5)(b)(iii).

4.6.9 An amendment to language in WAC 296-150I-0350(1) replaces “a homeowner” with “an approved homeowner” to the list of those who may install a manufactured home. This amendment addresses SEBA audit finding 1 and aligns with HUD standards federal rule 24 CFR 3286.803(b)(2) and (3). As a result of being an existing federal requirement, this change is exempt from analysis under RCW 34.05.328(5)(c)(iii).

4.6.10 WAC 296-150I-0360 is amended to include new subsection (2), which requires a permit prior to the commencement of installation work. The requirement of a permit for installation work is not new and this language simply states at what stage in the process it is required. In essence, this language serves as clarifying language and is not expected to impose any cost upon those impacted. Additionally, this language aligns MH standards with those of Washington state building codes, and serves to make such operation requirements consistent among different types of structure installations.

4.6.11 An amendment to the first paragraph of WAC 296-150I-0380 requires the installer to provide an affidavit in lieu of the manufacturer’s original installation instructions when the latter is not available for a secondary installation. The affidavit is a short and simple document which takes less than 5 minutes to complete and can be submitted electronically. As a result, this amendment is not expected to impose any significant costs upon impacted businesses or workers.

4.6.12 Proposed new subsection (1)(b)(i) to WAC 296-150I-0390 adds language to address new requirements for homes designed to support an “attached accessory building or structure.” The proposed language aligns the subsection with HUD MHCSS 3280, effective July 12, 2021. Similar to changes to WAC 296-150I-0310(e) discussed above, this change adopts a national standard and so is exempt from analysis. As a result, there would be no new cost imposed as a result of this new language.

4.6.13 Amendments to WAC 296-150I-0410(1)(a) adds new language to require the DAPIA approved plan be provided to the FAS plan review staff for verification. Impacted installers are not expected to incur any cost from this proposed change because the program does not charge a fee for this service (the verification of the plan), and the installer can submit the plan electronically using standard communication equipment, such as a mobile device or a computer.

4.6.14 Changes to WAC 296-150M-3000 add ‘Manufactured home installation inspection permit’ fee of \$536.20 to the current fee schedule. This new fee only applies to cities and counties with an L&I inspection contract and represents 7 hours at a regular hourly rate of \$76.60/hour. While this addition does introduce a new fee with potentially new costs to impacted business, this rule amendment is setting a fee under the authority of RCW 19.80.045. As a result, it is exempt from cost analysis under RCW 34.05.328(5)(b)(vi).

Chapter 5: Probable Benefits of the Proposed Rule

The overall purpose of this rulemaking is to update the current FAS rule for compliance with the HUD regulations and to address findings from the HUD 2017 review of the FAS rules and standards for manufactured housing installations. The main changes under consideration regarding HUD's review include:

- Homeowners who want to perform their own installations must be approved by the agency after training and passing a test;
- The requirement that certified installers must verify and acknowledge site preparations for new manufactured homes; and
- Replacing the ANSI 225.1 standard, 1994 edition with the HUD Model Installation Standards.

In addition to bringing the rule into alignment with HUD regulations, the implementation of the proposed rulemaking would help improve the safety in home installations for certified installers as well as homeowners who perform their own installations.

This chapter first discusses the quantitative benefits of the proposed change, followed by the qualitative benefits.

5.1 Quantitative Benefits

A manufactured home or FAS is considered to be around 95 percent completed when it leaves the factory.¹³ As such, the installation process is different from that of constructing a site-built residential structure. This process is typically quicker than a site-built structure and includes the use of a large hydraulic crane to hoist and position the structure, the use of bulldozers, taglines, crowbars and other tools to align the home to the foundation. The different procedure presents different risks not typically encountered in residential construction. Table 8 outlines some of the tasks and hazards associated with this installation.

¹³ The Center to Protect Workers' Rights, *Safety Hazards to Workers in Modular Home Construction*, 2003.

Table 8. Major job tasks and potential hazards in the installation of a FAS^{14, 15}

Task	Potential Hazard
Flagging traffic while positioning the home for hoisting	Struck by
Hoisting of large, heavy modules, or "boxes." by inexperienced workforce on a site having uneven terrain and other less-than-desirable conditions	Struck by, caught between
Working under a heavy load that is being hoisted into place	Struck by, caught between
Aligning the house to the foundation	Caught between
Accessing the foundation wall with a ladder that does not exceed the top edge of the wall, as required by OSHA, to allow clearance for the house set	Fall
Accessing the roof with an extension ladder	Fall
Riding the tilt-up room into place/riding the load	Fall
Accessing the attic area from the roof top	Fall
Working under the roof while it is suspended by the crane	Caught between, crushed by, fall

In order to assess the quantitative benefits of the proposed rulemaking L&I needs to examine the violations, injuries and fatalities that could be impacted by the rule amendments. L&I relies upon three primary data sources to estimate the number of violations and inspections, and the costs from associated incidents. The first source is the Division of Occupational Safety and Health (DOSH) internal database, which provides reliable data on violations and inspections related to activity in the installation of manufactured homes. The second data source is L&I's internal workers' compensation claims, which provides information on claims and their associated costs. The third source of data is the United States Department of Labor, Occupational Safety and Health Administration (OSHA), which provides data on the number of fatality-related inspections in Washington state. The data available is limited to professional class workers only and not homeowners for whom no data is available on injuries or violations. The effect of this data limitation is that it is difficult to quantify the impact of the proposed rule changes to homeowners,

¹⁴ The Center to Protect Workers' Rights, *Safety Hazards to Workers in Modular Home Construction*, 2003.

¹⁵ In addition to those hazards listed, some additional common hazards identified from L&I claims data includes "Overexertion", "Rubbed or Abraded by", and "Bodily Reaction".

and the result is that the overall estimates presented in this analysis are conservative. However, where possible, L&I has attempted to estimate related cost and benefit to homeowners in order to capture those extended impacts.

5.1.1 Benefits from a reduction in the number of injuries and fatalities

Results from the three data sources reveal that on average 36 non-fatal injuries occurred annually in manufactured home installations between 2011 and 2020. While there were no fatalities in this 10 year period, there were two fatalities related to manufactured home installations in 2002 and 2007 respectively. These two fatalities have been excluded from this analysis since they fall outside the examined period.¹⁶

A review of the injuries and how they relate to the proposed rule amendments suggests that the rule will have a positive impact on the frequency and number of these injuries. The actual effect of the rule amendments is expected to be underestimated for several reasons. First, there is no data available on injuries suffered by homeowners who perform their own installation. Second, given that installation of manufactured homes is indeed construction in nature, injuries suffered to workers in the manufactured home installation space can easily be misclassified as other construction related, and so not all injuries will be properly captured. Third, injuries suffered to the public would not be reported and accounted for in the data since they fall outside of a worker class. The ultimate result of these data issues means there is an understatement in the actual number of reported nonfatal injuries and claims, also indicating that the true benefits of the proposed rule would likely be greater than estimated in this analysis.

To assess the total benefit to injuries of this proposed rule, L&I examined the impact to certified installers and then homeowners. Using historical worker compensation data and an average growth rate of 3 percent, L&I projects a total of approximately 275.8 injuries over the next 10-year period. Assuming the proposed rule can lead to a 10-20 percent reduction in injuries to workers, and an indirect-to-direct claim ratio of 110 percent¹⁷, L&I estimates a reduction of about

¹⁶ Should we choose a longer timeframe for this analysis and therefore include these two fatalities in the benefit assessment, the probable benefits of this rule would be much higher.

¹⁷ Indirect cost of a claim includes, but not limited to lost productivity, payment for absences not covered by worker's compensation, etc.

2.8 to 8.7 injuries each year, and an estimated savings of \$73,406 to \$232,490 annually (see Table 9).

Table 9. Benefits from a reduction in injuries to MH workers

Direct claim cost for a nonfatal injury \$12,675.87
Indirect-to-direct cost ratio: 110%
Total cost per nonfatal injury: \$26,619.33
Projected number of nonfatal injuries to MH workers in 10 years: 275.8
Average number of nonfatal injuries to MH workers prevented each year: 2.8 – 8.7
Annual cost savings from prevented nonfatal injuries: \$73,406 - \$232,490

The available workers' compensation data represents those injuries suffered by workers in the respective fields. No data exists for injuries suffered by homeowners in the installation of their own manufactured homes. However, given that the nature of the work and the safety issues are the same, and the smaller number of homeowner installations, L&I estimates that homeowners would account for an additional 10 to 20 percent of injuries.¹⁸ Using the same data and growth rate as certified installers above, L&I projects a total of approximately 27.6 to 55.2 injuries to homeowners over the next ten years. L&I assumes a 30-40 percent reduction in homeowner injuries resulting in 0.8 to 2.2 reduced injuries each year, and estimated savings of \$22,022 to \$58,725 annually (see Table 10).

Table 10. Benefits from a reduction in nonfatal injuries to homeowners

Direct claim cost for a nonfatal injury \$12,675.87
Indirect-to-direct cost ratio: 110%
Total cost per nonfatal injury: \$26,619.33
Projected number of homeowner nonfatal injuries in 10 years year: 27.6 – 55.2
Average number of homeowner nonfatal injuries prevented each year: 0.8 – 2.2
Annual cost savings from prevented nonfatal injuries: \$22,022 - \$58,725

¹⁸ This estimate is based on the assumption that homeowners generally work in different, less complicated, areas of installation than certified installers, and will have less injuries because of the smaller number of homeowner installations.

Table 11. Summary of benefits from a reduction in injuries

Annual cost savings from prevented nonfatal injuries to workers: \$73,406 - \$233,490
Annual cost savings from prevented nonfatal homeowner injuries: \$22,022 - \$58,725
Total annual cost savings: \$95,428 - \$291,215

5.2 Qualitative Benefits

Beyond the benefits quantified above in Section 5.1, there are additional benefits that are difficult to quantify, but nevertheless relevant, and which accrue as a result of the proposed rule. Here, we discuss five main qualitative benefits of the amendments.

First, the proposed amendments provide clarity and consistency to industry participants. The updated language and definitions remove ambiguities, provide clarity, and make it generally easier to understand the latest updates and its alignment with HUD regulations. This allows industry participants to remain in compliance and avoid unintended violations.

Second, it enhances consumer protection by ensuring that all installers have received training and other basic knowledge necessary for the safe installation of a manufactured home. For instance, by requiring homeowners performing their own installations to go through a training-based approval process enhances the knowledge of best practices and safety standards and expands it to more industry participants. This should contribute towards reducing the number of injuries suffered by persons engaged in, and damage to property from, installation work.

A third qualitative benefit is the avoidance of pain and suffering by victims and their families. Serious injuries (fatal or non-fatal) are typically accompanied by psychological, mental and emotional costs, with varying impact and duration. This places a heavy burden on families trying to deal with the healing or loss of their loved one. By improving safety standards and expanding it to more persons involved in installation work, the number of injuries can be reduced, and with it the pain and suffering by both victims and their families.

A fourth benefit is time savings. By eliminating redundancies the proposed amendments aims to streamline the rule which saves installers time. These time savings can remove distractions and allow installers to focus on more important aspects of installation work.

A fifth benefit of the proposed rule is further consumer protections and cost savings as it relates to the home. Enhancing the storage support requirements for homes placed in long-term storage is expected to reduce the number of homes damaged and the amount of damage (in repair cost) to homes received by consumers. In addition, consumer complaints to the FAS Program, and agency follow-up investigations, are also expected to be reduced. While reliable data was not available to quantify these benefits, such reductions ultimately result in both time and cost savings.

DRAFT

Chapter 6: Cost-Benefit Determination

In compliance with the Administrative Procedures Act (APA) under chapter 34.05 RCW, L&I has analyzed the probable costs and benefits, quantitatively and qualitatively, associated with the proposed amendments to chapters 296-150I and 296-150M WAC.

There is an inherent level of uncertainty involved in these economic analyses. Specifically, the uncertainty risk comes from the reliance upon certain assumptions, though reasonable, and the statistical approach to analyzing available data to arrive at estimates. This implies that the true cost and benefit implications of the proposed rule amendments are unknown. However, the approach taken by L&I to determine the impact of the proposed rule on the affected businesses and workers is considered the best one based on the available information and data at the time of this analysis.

L&I estimates that the proposed rule amendments would impose additional costs of \$79,298 to \$163,778 each year. The total quantified benefits of the proposed rule are estimated to be between \$95,428 and \$291,215 annually, in addition to a number of significant but unquantifiable benefits. Therefore, L&I concludes that the probable benefits exceed its probable costs.

Chapter 7: References

Washington Employment Security Department, 2020 Occupational Employment and Wages Estimates.

Home Nation, *Installing and Setting up Mobile Homes: The Complete Buyer's Guide*.

Homes Direct, *Manufactured Home Setup. A Comprehensive Guide to the Installation Process*, November 17, 2016.

Housing and Urban Development, www.HUD.Gov.

Model Manufactured Home Installation Standards, 2003 Edition.

Becker, P.E., et al, 2003. [The Center to Protect Workers' Rights: Research: Research Reports: Safety Hazards to Workers in Modular Home Construction \(cpwr.com\)](#).

United States Department of Labor, Occupational Safety and Health Administration. Source: [Inspection Detail | Occupational Safety and Health Administration \(osha.gov\)](#)