Small Business Regulatory Review Board Meeting

July 26, 2024

10:00 a.m.

SMALL BUSINESS REGULATORY REVIEW BOARD

Department of Business, Economic Development & Tourism (DBEDT)
No. 1 Capitol District Building, 250 S. Hotel Street, Fifth Floor, Honolulu, HI 96813
Mailing Address: P.O. Box 2359, Honolulu, HI 96804
Email: dbedt.sbrrb.info@hawaii.gov
Website: sbrrb.hawaii.gov
Tel: 808 798-0737

AGENDA
Friday, July 26, 2024 ★ 10:00 a.m.
Leiopapa A Kamehameha Building – State Office Tower
235 S. Beretania Street, Conference Room 405
Honolulu, HI 96813

As authorized under Act 220, Session Laws of Hawaii 2021, and Section 92-3.7 Hawaii Revised Statutes (HRS), the public can participate in the meeting either:

A. By attending the in-person meeting at: Leiopapa A Kamehameha Building – State Office Tower 235 S. Beretania Steet, Conference Room 405, Honolulu, HI 96813; or

B. Via Video-audio livestream or via Telephone - to join the Video-audio livestream meeting, go to:

https://us06web.zoom.us/j/88945374966?pwd=cDhqWEEzZGZHYmJLM05tMHU5Mm5HQT09

C. To Join via Telephone: Dial 1-669-900-6833 with Meeting ID 883 5814 0200 Passcode 066739

When the Chairperson asks for public testimony during the meeting, you may indicate that you want to provide oral testimony by using the raise hand function or, if calling in by telephone, entering * and **9** on your phone keypad. When recognized by the Chairperson, you will be unmuted. If calling in by phone, you can unmute and mute yourself by pressing * and **6** on your keypad.

Members of the public may also submit written testimony via e-mail to: DBEDT.sbrrb.info@hawaii.gov or mailed to SBRRB, No. 1 Capitol District Building, 250 S. Hotel Street, Room 508, Honolulu, HI 96813, or P.O. Box 2359, Honolulu, HI 96804. The Board requests that written testimony be received by Thursday, July 25, 2024 so it may be distributed to Board members prior to the meeting. Testimony received after that time will be distributed to the Board members at the meeting.

Copies of the Board Packet will be available on-line for review at: Agendas & Minutes – Small Business Regulatory Review Board (hawaii.gov). An electronic draft of the minutes for this meeting will also be made available at the same location when completed.

The Board may go into Executive Session under Section 92-5 (a)(4), HRS to Consult with the Board's Attorney on Questions and Issues Concerning the Board's Powers, Duties, Immunities, Privileges and Liabilities.

I. Call to Order

II. Approval of June 20, 2024 Meeting Minutes

III. Old Business

A. Discussion and Action on the Small Business Impact Statement After Public Hearing and Proposed Amendments to HAR Title 12 Subtitle 8 Part 10, **Boiler and Pressure Vessel**, promulgated by Department of Labor and Industrial Relations, as follows – *Discussion Leader – Mary Albitz*

1. Chapter 220 General, Administrative and Legal Provisions;
2. Chapter 222.1 Power Boilers;
3. Chapter 223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters; and
4. Chapter 224.1 Pressure Vessels

IV. New Business

A. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to HAR Title 19 Subtitle 5 Chapter 133.2, **Motor Vehicle Safety Office**, promulgated by Department of Transportation – *Discussion Leader – James Kimo Lee*

V. Legislative Matters

A. Discussion on the following legislative matters:

1. **House Bill 2354 HD1 SD2 CD1 – Relating to the Small Business Regulatory Review Board –** Clarifies that the Small Business Regulatory Review Board has the authority to review legislation affecting small businesses in response to a request from small business owners
2. **Senate Bill 2974 SD2 HD1 CD1 – Relating to Economic Development –** Establishes a Business Revitalization Task Force within the Department of Business, Economic Development, and Tourism to identify methods to improve Hawaii's general economic competitiveness and business climate, including the mitigation of regulatory and tax burdens; requires a report to the Legislature

VI. Administrative Matters

A. Update on the Board's Upcoming Advocacy Activities and Programs in accordance with the Board's Powers under Section 201M-5, Hawaii Revised Statutes (HRS)

1. Update and Discussion on Becker Communications Inc., regarding the Board's Small Business Outreach
2. Presentations to Industry Associations
3. Staff's Small Business Outreach

VII. Next Meeting:

Thursday, August 15, 2024 at 10:00 a.m., held via Zoom and at Leiopapa A Kamehameha Building – State Office Tower, Conference Room 405, Honolulu, HI 96813

VIII. Adjournment

If you need an auxiliary aid/service or other accommodation due to a disability, contact Jet'aime Ariola at 808 798-0737 and jetaime.k.ariola@hawaii.gov as soon as possible, preferably at least three (3) working days prior to the meeting. Requests made as early as possible have a greater likelihood of being fulfilled.

Upon request, this notice is available in alternate/accessible formats.

II. Approval of June 20, 2024 Meeting Minutes

Approved: _____

Small Business Regulatory Review Board

MEETING MINUTES - DRAFT
June 20, 2024

ZOOM Meeting Recording

I. CALL TO ORDER: Chair Albitz called the meeting to order at 10:01 a.m., with a quorum present.

MEMBERS PRESENT:
- Mary Albitz, Chair
- Robert Cundiff, Vice Chair
- Jonathan Shick, 2nd Vice Chair
- James (Kimo) Lee
- Sanford Morioka
- Mark Ritchie

ABSENT MEMBERS:
- Garth Yamanaka
- Dr. Nancy Atmospera-Walch
- Tessa Gomes

STAFF: DBEDT — Jet'aime Ariola
Office of the Attorney General — John Cole

II. APPROVAL OF May 16, 2024 MINUTES

Vice Chair Cundiff motioned to approve the May 16, 2024 meeting minutes, as presented. Mr. Ritchie seconded the motion and the Board members unanimously agreed.

III. OLD BUSINESS

A. Discussion and Action on the Small Business Statement After Public Hearing and Proposed Amendments to HAR Title 13 Chapter 109 Rules for Establishing Forest Stewardship, promulgated by Department of Land and Natural Resources (DLNR)

Discussion leader and Second Vice Chair Shick requested that Ms. Tanya Rubenstein, Cooperative Management Forester from DLNR's Division of Forestry and Wildlife, explain how the public hearing went and if there were any changes that came out of the hearing.

Ms. Rubenstein stated that on May 10th, she went in front of the Board of Land and Natural Resources and received approval to move forward with the rules without any changes to the original proposal. The public hearing was held on March 24th; two oral and three written testimonies were received, all in support of the changes. The business testifiers included the president of Forest Solutions, Inc., based out of Hawaii Island, and Siglo Tonewoods.

Mr. Ritchie made a motion to pass the proposed rule amendments onto the Governor for adoption. Vice Chair Cundiff seconded the motion, and the Board members unanimously agreed.

IV. NEW BUSINESS

A. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to the following, promulgated by Department of Commerce and Consumer Affairs (DCCA)

1. HAR Title 16 Chapter 107, Relating to Horizontal Property Regimes

2. HAR Title 16 Chapter 119.1 through 119.8 Relating to Condominiums

Mr. Kedin Kleinhans, Senior Condominium Specialist at DCCA's Professional & Vocational Licensing Division (PVLD) introduced his team. They were in front of this Board to repeal Chapter 16-107 upon the simultaneous adoption of Chapter 16-119.1 through 16-119.8, which will supplement Chapter 107.

Mr. Kleinhans explained that most of the proposed rules already exist in Chapter 107; there are also a few new rules and requirements. Examples of some of the new provisions include various budgetary and record-keeping requirements, which may involve additional fees to pay for services performed by CPAs or property management companies. Language of the provisions were drafted with the intent to provide an open-ended approach to satisfying the proposed requirements.

DCCA's Blue Ribbon Committee was formed years ago, with members representing small business owners, organizations that represent small businesses, and individuals who may be impacted by the adoption of new administrative rules relating to condominiums. The primary objective of the Blue Ribbon Committee is to discuss and recommend proposed rule language to implement Chapter 514B, HRS; as such, the Committee compiled the proposed rule package. Members of this Committee include, among others, property management companies, small real estate associations, and an architectural company.

Vice Chair Cundiff suggested that while there appears to be a good cross-section of representatives on the Committee, because of the long-term tenure of the committee, that its members be notified of the process of the rules to reach out for any additional stakeholder comments.

Mr. Ritchie made a motion to pass the rules on to public hearing. Mr. Morioka seconded the motion, and the Board members unanimously agreed.

B. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to HAR Title 16 Chapter 4, Massage Therapy, promulgated by DCCA

Ms. Rise Doi, Executive Officer at DCCA's PVLD, explained that the proposed rules have been worked on for quite some time.

Chair Albitz referenced written testimony from Ms. Rachael M. Klein, Klein Natural Health and Wellness Center which stated that "it is crucial that small business and continuing education providers not exclusive to massage therapy be able to offer courses, and that there be enough approved classes that licensees can find excellent material available in their area." Ms. Klein is concerned that the proposed language is overly restrictive.

Ms. Doi responded to Ms. Klein's comments and confirmed that the Board of Massage Therapists wants to make sure that continuing education is based on recognized national certified organizations and that the standards of the course requests and content meet the Board's recognition and approval. However, she noted that there is still an avenue for someone to request additional, various courses subject to the Board's review and approval. The cost of the continuing education courses may vary in price depending on the providers; some of the courses have no cost.

The Sanitation Rules require that the Board of Massage Therapy adopt administrative rules establishing standards of sanitary practices for massage therapy establishments; thus, a new subchapter is being added. Small business outreach was performed via an open meeting for which public notice was given. Also noted was that the proposed rule changes set the playing field for all types of massage therapist vocations.

Chair Albitz requested that DCCA actively get the word out through outreach to the stakeholders about the rule changes.

Mr. Ritchie made a motion to pass the rules on to public hearing. Vice Chair Cundiff seconded the motion, and the Board members unanimously agreed.

C. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to HAR Title 16 Chapter 72, Acupuncture Practitioners, promulgated by DCCA

Ms. Rise Doi, Executive Officer at DCCA's PVLD, noted that one of the board members of the Board of Acupuncture was in the meeting remotely. The purpose of the changes is to update and clarify definitions, scope of practice, education and training requirements, sanitation, use of titles, and non-substantive changes.

The rules require that beginning January 2022, all applicants applying for a license as an acupuncturist are required to pass exams administered by the National Certification Commission or Acupuncture and Oriental Medicine or its successor testing agency, necessary to obtain a diplomate of Oriental Medicine or its equivalent as determined by the Board.

Chair Albitz reiterated that DCCA actively get the word out through outreach to the stakeholders about the rule changes.

Chair Albitz made a motion to pass the rules on to public hearing. Mr. Ritchie seconded the motion, and the Board members unanimously agreed.

D. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to HAR Tittle 11 Chapter 208.1, Underground Storage Tanks, promulgated by Department of Health (DOH)

Discussion leader Mr. Morioka requested that Ms. Lauren Cruz, DOH's Environmental Health Specialist, provide background information on the proposed rule changes. Ms. Cruz explained that the purpose of the rule changes is to update the underground storage tanks (UST) systems and the cleanup of releases from UST systems. Tank system owners and operators are required to clean up releases and remediate contaminated soil, groundwater, and surface water to a level that is protective of human health and the environment.

The proposal adds two new contaminants to the rules that are included in Table 1 in the rules; the action levels for five of the existing contaminants in Table 1 are also being updated. The Tier 1 screening levels are based on the department's Environmental Action Levels, which are based on toxicological data (dangers of exposure to a specific chemical contaminant) and risk assessments considering potential pathways of human health and environmental exposure to contaminants.

Ms. Cruz added that the department is allowing for deviation from these levels only as long as they are determined to be protective of human health and the environment. There is no anticipated impact to the small businesses because in most cases, such as gasoline stations which have already upgraded their gasoline tanks, this reduces the likelihood that there will be any releases. Ms. Cruz also noted that by 2028, all gasolines stations are required to be updated to double-wall tanks.

A public comment period occurred from April to May of this year with only one set of comments from one stakeholder; the stakeholder was not a small business but a large environmental consulting company.

Vice Chair Cundiff made a motion to pass the rules on to public hearing. Second Vice Chair Shick seconded the motion, and the Board members unanimously agreed.

E. Discussion and Action on the Small Business Impact Statement and Proposed New HAR Title, Subtitle 14, Hawaii Invasive Species Council, Chapter 325, General Provisions and Chapter 326 Control and Eradication of Invasive Species, promulgated by DLNR

Discussion leader and Second Vice Chair Shick explained that rather than having a financial impact on small businesses, the rule proposal allows Hawaii Invasive Species Council (HISC), after notice to departments, counties or an agent, to access private property to control or eradicate an invasive species that was identified by HISC.

Ms. Chelsea Arnott, Program Supervisor from HISC/DLNR, explained that her main role is program support to the HISC. The HISC was established in 2003 by Hawaii Revised Statutes and the purpose of HISC is to provide policy level direction, coordination and planning amongst the state departments and federal agencies. The last meeting of HISC was May 29, 2024, which unanimously approved the initiation process for these proposed rules.

Testimony was received at this May 29th meeting. Although none of the testimony was from small businesses, the comments received questioned why there aren't more species listed on the invasive species list. Ms. Arnott noted that DLNR's Deputy AG recommended that a small list be initiated first that includes the more invasive species, and then in the future to work from that.

Ms. Arnott specifically highlighted Chapter 194-5 Entry to Private Property, Chapter 194-6 Entry to Public Property, and Chapter 194-7 Ability to Adopt Rules. She explained how the Miconia, which poses a great threat to the integrity of Oahu's forested watershed is considered highly invasive, is a prolific seeder and its tiny seeds can remain invisible in the soil for up to 18 years. She further explained the list of invasive species which have very high impact as the species are either currently in Hawaii or are not known to occur.

A summary of the proposed rules include: 1) Invasive species identified by the council for control and eradication; 2) Requirements for control or eradication on private property; 3) Notice; 4) Requirement for control or eradication by private property owner; 5) Requirements for control or eradication on public property; and 6) Warrants.

In response to Vice Chair Cundiff's question as to whether there might be any pushback or impact on small business, Ms. Arnott explained that because there are no fines or fees associated with the rule proposal, she doesn't anticipate any impact. However, the only time there might potentially be impact is when there is proof of any "knowing or intentional" introduction of one or more of the listed invasive species on a small business property. Also, discussed was if hypothetically the State would have to go into a small business' farm and perform ratification of a crop, which may become a financial loss.

Second Vice Chair Shick made a motion to pass the rules on to public hearing. Mr. Ritchie seconded the motion, and the Board members unanimously agreed.

V. ADMINISTRATIVE MATTERS

A. Update on the Board's Upcoming Advocacy Activities and Programs in accordance with the Board's Powers under Section 201M-5, Hawaii Revised Statutes (HRS)

1. Update and Discussion on Becker Communications, Inc., regarding the Board's Small Business Outreach

   Nothing was reported.

2. Presentations to Industry Associations

   Pursuant to Board member Mr. Yamanaka's suggestion, Program Specialist Ms. Ariola contacted DCCA's Business Action Center and is currently working with staff there to download and link to this Board's Small Business Bill of Rights and SBRRB's brochures.

   Ms. Ariola attended the PBN Business Panel on May 31st in Kauai. An update on the PBN Business Panel in the Big Island that is taking place July 12th.

Mr. Ritchie reminded Ms. Ariola to register for the Small Business Fair that is being held on September 28th at Leeward Community College.

3. Staff's Small Business Outreach

Ms. Ariola attended the PBN Business Panel on May 31st in Kauai. Another event sponsored by PBN Business Panel will be held on the Big Island on July 12th. Board member Mr. Yamanaka has been a recommended to be a panel speaker at this event, and Mr. Lee also indicated that he will be attending. Ms. Ariola will follow-up with them both.

VI. LEGISLATIVE MATTERS

A. Update, Discussion and Action, if necessary, on the following legislative matters:

1. House Bill 2354 HD1 SD1 Relating to the S-mall Business Regulatory Review Board – Clarifies that the Small Business Regulatory Review Board has the authority to review legislation affecting small businesses in response to a request from small business owners.

   There has been no activity on this measure.

2. Senate Bill 2974 SD2 HD1 Relating to Economic Development – Establishes a Business Revitalization Task Force within the Department of Business, Economic Development, and Tourism to identify methods to improve Hawaii's general economic competitiveness and business climate, including the mitigation of regulatory and tax burdens; requires a report to the Legislature.

   There has been no activity on this measure.

VII. ELECTION OF BOARD OFFICERS

A. Discussion and Action on the following:
   1. Chairperson, pursuant to Section 201M-5(c), HRS

      Mr. Cundiff motioned to nominate Mr. Jonathan Shick as this Board's Chair for the 2024–2025 session. Mr. Ritchie seconded the motion and the Board members unanimously agreed.

   2. Vice Chair

      Mr. Ritchie motioned to nominate Ms. Mary Albitz as the Board's Vice Chair. Mr. Lee seconded the motion and the Board members unanimously agreed.

   3. Second Vice Chair

Mr. Ritchie motioned to nominate Mr. Sanford Morioka as the Board's Second Vice Chair. Mr. Cundiff seconded the motion, and the Board members unanimously agreed.

VIII. NEXT MEETING – Thursday, July 18, 2024 at 10:00 a.m., via Zoom and in conference room 405 at Leiopapa A Kamehameha Building – State Office Tower – 235 S. Beretania Street, Honolulu, HI 96813.

IX. ADJOURNMENT – Vice Chair Cundiff motioned to adjourn the meeting and Mr. Ritchie seconded the motion; the meeting adjourned at 11:24 a.m.

III. Old Business

A. Discussion and Action on the Small Business Statement After Public Hearing and Proposed Amendments to Hawaii Administrative Rules (HAR) Title 12 Subtitle 8 Part 10, Boiler and Pressure Vessel, promulgated by Department of Labor and Industrial Relations (DLIR), as follows:

1. **Chapter 220 General, Administrative and Legal Provisions;**
2. **Chapter 222.1 Power Boilers;**
3. **Chapter 223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters; and**
4. **Chapter 224.1 Pressure Vessels**

RECEIVED
By SBRRB at 8:55 am, Jul 05, 2024

SMALL BUSINESS IMPACT STATEMENT
AFTER PUBLIC HEARING TO THE
SMALL BUSINESS REGULATORY REVIEW BOARD
(Hawaii Revised Statutes §201M-3)

Department or Agency: Labor and Industrial Relations

Administrative Rule Title and Chapter: Title 12, Subtitle 8, Part 10 Boiler and Pressure Vessel.

Chapter Name: 12-220 General, Administrative and Legal Provisions; 12-222.1 Power Boilers, 12-223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters, and 12-224.1 Pressure Vessels.

Contact Person/Title: William Kunstman, Deputy Director
Phone: (808) 586-8845
Email: william.g.kunstman@hawaii.gov **Date:** 7/5/24

A. To assist the SBRRB in complying with the meeting notice requirement in HRS §92-7, please attach a statement of the topic of the proposed rules or a general description of the subjects involved.

There are approximately 10,000 pressure retaining items (boilers, pressure vessels, and pressure systems) in Hawaii. These items are owned and operated throughout most of our industrial sectors, notably in utility power plants, refineries, industrial processing facilities, and accommodations. Many pressure retaining items are owned and operated by small businesses, including “mom & pop shops” such as laundry facilities, restaurants, auto service establishments, and buildings, among others.

The proposed changes represent a minor revision of the boiler and pressure vessel rules. A major overhaul was conducted in 2019 and some modifications and revisions were made in 2012, 2000 and 1996. This revision explicitly incorporates national consensus standards in the rules both in adoption by reference as well as by numerous references in the text. The two major codes adopted are the 2021 editions of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code for new construction and the National Board Inspection Code for post-construction.

The changes also provide more detailed instructions regarding the procedures endorsed and used by the Boiler Section as well as an increase in fees to reflect the increased costs associated with collective bargaining, fringe rate, and increases in the costs of goods and services as reflected in the Consumer Price Index (CPI).

The cumulative increase in collective bargaining costs from FY2012 to FY2023 for Bargaining Units 3 & 4 is 40.5%, the CPI has increased by 33%, and the fringe rate has increased from 41.54% to 64.25%. The CPI has increased 87% since July 1998.

B. Are the draft rules available for viewing in person and on the Lieutenant Governor's Website pursuant to HRS §92-7? (If Yes, please provide webpage address and when and where rules may be viewed in person).

Draft rules in Ramseyer format are available at:
https://labor.hawaii.gov/hiosh/proposed-rules/

The rules are also available at HIOSH: 830 Punchbowl Street #425.

I. Rule Description: Amendment & Compilation

Amendment and Compilation of 12-220 General, Administrative and Legal Provisions; 12-222.1 Power Boilers, 12-223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters, 12-224.1 Pressure Vessels,

II. Will the proposed rules affect small business?

Yes.

III. Is the proposed rule being adopted to implement a statute or ordinance that does not require the agency to interpret or describe the requirements of the statute or ordinance?

No.

IV. Is the proposed rule being adopted pursuant to emergency rulemaking?

No.

V. Please explain how the agency involved small business in the development of the proposed rules.

The Director held a meeting with the stakeholders from the pressure equipment industry, notably attended by small business owners, mechanical engineering design and construction firms, and representatives from Hawaiian Electric Company and Par Hawaii Refinery on Tuesday, August 29, 2023. The DLIR sent the proposed rules with the invitation to attend the meeting to explain the changes. Sixteen individuals attended the meeting in person and remotely.

a. Were there any recommendations incorporated into the proposed rules? If yes, explain. If not, why not?

Participants at the meeting were supportive of the changes and did not have any recommendations to incorporate changes to the rules.

VI. If the proposed rules affect small business, and are not exempt as noted above, please provide the following information:

1. A description of how opinions or comments from affected small business were solicited.

The Boiler Section's approach to regulating stakeholders involves continually interacting with the regulated community throughout the inspection process and ascertaining the affect boiler and pressure vessel regulation has upon businesses, including small businesses.

The Boiler Section has been working on revising the rules since the spring of 2021 and has periodically conferred with small business during the course of

operations. In addition, participants from the stakeholders meeting noted above, and others, were solicited for testimony for the public hearing.

The department duly noticed, notified stakeholders, and held a public hearing on the proposed rules on May 30, 2024.

2. **A summary of the public's and small businesses' comments.**

   No persons either attended the public hearing or submitted written comments.

3. **A summary of the agency's response to those comments.**

   Not applicable.

4. **The number of persons who:**

   (i) **Attended the public hearing**: 0
   (ii) **Testified at the hearing**: 0
   (iii) **Submitted written comments**: 0

5. **Was a request made at the hearing to change the proposed rule in a way that affected small business?**
   No.

SMALL BUSINESS STATEMENT
"AFTER" PUBLIC HEARING TO THE
SMALL BUSINESS REGULATORY REVIEW BOARD
(Hawaii Revised Statutes (HRS), §201M-3)

Department or Agency: Labor and Industrial Relations

Administrative Rule Title and Chapter: Title 12, Subtitle 8, Part 10 Boiler and Pressure Vessel

Chapter Name: 2-220 General, Administrative and Legal Provisions; 12-222.1 Power Boilers, 12-223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters, and 12-224.1 Pressure Vessels.

Contact Person/Title: William Kunstman, Deputy Director

Phone Number: 808-586-8845

E-mail Address: william.g.kunstman@hawaii.gov **Date:** 7/5/24

A. To assist the SBRRB in complying with the meeting notice requirement in HRS §92-7, please attach a statement of the topic of the proposed rules or a general description of the subjects involved.

B. Are the draft rules available for viewing in person and on the Lieutenant Governor's Website pursuant to HRS §92-7?

☑ **Yes** ☐ **No**

(If "Yes," please provide webpage address and when and where rules may be viewed in person. Please keep the proposed rules on this webpage until after the SBRRB meeting.)

I. Rule Description: ☐ **New** ☐ **Repeal** ☑ **Amendment** ☑ **Compilation**

II. Will the proposed rule(s) affect small business?

☑ **Yes** ☐ **No** (If "**No,**" no need to submit this form.)

* "Affect small business" is defined as "any potential or actual requirement imposed upon a small business . . . that will cause a direct and significant economic burden upon a small business, or is directly related to the formation, operation, or expansion of a small business." HRS §201M-1

* "Small business" is defined as a "for-profit corporation, limited liability company, partnership, limited partnership, sole proprietorship, or other legal entity that: (1) Is domiciled and authorized to do business in Hawaii; (2) Is independently owned and operated; and (3) Employs fewer than one hundred full-time or part-time employees in Hawaii." HRS §201M-1

III. Is the proposed rule being adopted to implement a statute or ordinance that does not require the agency to interpret or describe the requirements of the statute or ordinance?

☐ **Yes** ☑ **No**

(If "Yes" no need to submit this form. E.g., a federally-mandated regulation that does not afford the agency the discretion to consider less restrictive alternatives. HRS §201M-2(d))

IV. Is the proposed rule being adopted pursuant to emergency rulemaking? (HRS §201M-2(a))

☐ **Yes** ☑ **No**

(If "Yes" no need to submit this form.)

* * *

V. Please explain how the agency involved small business in the development of the proposed rules.

See attached.

a. **Were there any recommendations incorporated into the proposed rules? If yes, explain. If not, why not?**

See attached.

VI. If the proposed rule(s) affect small business, and are not exempt as noted above, please provide the following information:

1. A description of how opinions or comments from affected small businesses were solicited.

See attached.

2. A summary of the public's and small businesses' comments.

See attached.

3. A summary of the agency's response to those comments.

See attached.

4. The number of persons who:
   (i) Attended the public hearing: 0

   (ii) Testified at the hearing: 0

   (iii) Submitted written comments: 0

5. Was a request made at the hearing to change the proposed rule in a way that affected small business?

   ☐ **Yes** ☑ **No**

   (i) If "Yes," was the change adopted? ☐ **Yes** ☐ **No**

   (ii) If No, please explain the reason the change was not adopted and the problems or negative result of the change.

surfing events that are currently permitted. The restrictions will make sure the surfing events will be spread out over a period of time, so they are not back-to-back and dominating the surf break for a significant period. Instead, the events will be sequenced over time, which will give recreational surfers access to those breaks in an interim period.

At the public hearing, there was a concern about Kakaako as this is where there is a body surf break. Under the DLNR rules (the agency that provides water permits), the issue about safe body surfing is permitted only with restrictions on the water. While Parks and Recreation is not limiting the ocean surf to bodyboarding, it is working with DLNR to change the types of events to be held at Kakaako.

Overall, Ms. Thielen noted that the public hearing went well and any outstanding issues, i.e., social concerns and ordinances, that were brought up at this Board's last meeting, are being attempted to be worked out by Parks and Recreation. Mr. Ritchie complemented Ms. Thielen and her staff for reaching out to those testifiers that had voiced concerns when this Board reviewed the proposal prior to the public hearing.

In response to Mr. Yamanaka's concern about whether each island/district would be able to choose what the best way to promote and hold these types of events and if it was decided that only one set of rules was the best way to proceed, Ms. Thielen stated that these rules specifically affect shoreline events around the island. They are "general" rules as shoreline events run the gamut of canoe races, rough water swim, etc.

However, there were special rules developed some years ago for north shore surf meets, which had a tremendous amount of community input from small businesses, residences, promoters, and others. Thus, north shore surf events were subsequently carved out in the rules that allow a robust surf calendar and provide some assurance of breaks in between events This will allow recreational surfers and others to utilize these surf breaks and to give the community a break from the traffic.

Ms. Thielen further stated that the proposed rules do not break the balance that was created at the north shore due to the extensive community input. However, a new shore water advisory group was created to review the necessity of creating any further surf breaks, and it was decided that aside from the south shore, the number of events in specific areas do not require specific rules; this is the reason for creating a different set of rules for the south shore.

Mr. Ritchie motioned to move the proposed amendments to the City and County of Honolulu Mayor for adoption. Mr. Morioka seconded the motion, and the Board members unanimously agreed.

IV. NEW BUSINESS **November 23, 2023 Meeting Minutes**

A. Discussion and Action on the Proposed Amendments to HAR Title 12 Subtitle 8, Part 10, Boiler and Pressure Vessel, promulgated by Department of Labor and Industrial Relations (DLIR), as follows:

1. Chapter 220 General, Administrative and Legal Provisions;
2. Chapter 222.1 Power Boilers;

3. Chapter 223.1 Heating Boilers – Steam Heating Boilers, Hot Water Heating Boilers, Hot Water Supply Boilers, and Potable Water Heaters; and
4. Chapter 224.1 Pressure Vessels

Mr. William Kunstman, Deputy Director at DLIR, explained the background and history of these rules and noted that the proposed changes are mostly minor revisions. This is largely because a major overhaul of the rules was conducted in 2019 with some modifications made in 1996, 2000, and 2012. The current revisions explicitly incorporate national consensus standards in the rules both in adoption by reference as well as by various references in the text.

Mr. Julius Dacanay, DLIR's Boiler & Elevator Branch Manager, further explained that there are approximately 10,000 pressure retaining items (boilers, pressure vessels, and pressure systems) in Hawaii. These items are owned and operated throughout most of the state's industrial sectors such as utility power plants, refineries, industrial processing facilities, and accommodations. Many pressure retaining items are owned and operated by small businesses, including "mom & pop shops" such as laundry facilities, restaurants, and auto service establishments, among others. It was noted that at least 4 of these mom & pop shops are considered small businesses.

The rules and adopted codes apply to any entity, including small businesses, which own or are responsible for pressure retaining items. The current fees range from $30 to $2,000 and the proposed fees are from $35 to $2,200. Overall, the average increase is 16.5%. When fees that are paid for by large entities are subtracted, the average increase is 10%.

Mr. Dacanay further noted that the collective bargaining and fringe rate costs have increased substantially (by 40.5%) since Act 103 created the special fund for the Branch and revolving funds which are required to pay the fringe costs of salaries. The fringe rate was 41.54% in fiscal year 2012-13 and for fiscal year 2023-24 the rate is 64.25%, a 55% increase. In addition, collective bargaining costs have increased by 40.5% and the CPI increased 33% in the same period.

On August 29, 2023, DLIR held a meeting with the stakeholders from the pressure equipment industry, notably attended by small business owners, mechanical engineering design and construction firms, and representatives from Hawaiian Electric Company and Par Hawaii Refinery. The meeting included 16 individuals and resulted in no new recommendations or changes to incorporate into the proposed rules.

Chair Albitz mentioned that the boiler and pressure vessel rules from 2019 had a large impact on Maui Wine becoming compliant with the regulations. Mr. Dacanay responded that a few weeks ago, he connected with Maui Wine, and he was pleased to report that he was able to properly guide the owner through the compliance process. It was confirmed that the proposed rules are structured to assist stakeholders with permitting.

In response to an inquiry by Vice Chair Cundiff, Mr. Dacanay explained that the rules were specially crafted to help small businesses create an owner/user inspection program that follows the respective rules and the laws. Also, the rules will allow qualified boiler inspectors to conduct safety inspections of their own pressure-related vessels. There is also a

certification and accreditation of engineering and other related shops to design and manufacture boilers and pressure vessels to be sold and used.

Mr. Ritchie motioned to move the proposed amendments to public hearing. Second Vice Chair Shick seconded the motion, and the Board members unanimously agreed.

V. ADMINISTRATIVE MATTERS

A. Update on the Board's Upcoming Advocacy Activities and Programs in accordance with the Board's Powers under Section 201M-5, Hawaii Revised Statutes (HRS)

1. Discussion with Becker Communications' Representative about creating a YouTube Video for the Board's Outreach Purposes

Ms. Laci Goshi, DBEDT staff member and media contact, introduced Ms. Jocelyn Collado and Ms. Aubrey Stewart from Becker Communications to discuss a short presentation with regards to this Board's recommendation to create a YouTube video for outreach purposes. They began by sharing the benefits of video content, as follows:

1) Most shared form of media on social platforms;
2) More engaging, memorable, and personalized;
3) Creates a deeper connection with audiences;
4) Shows the people and stories behind initiatives, and
5) Fosters a sense of community engagement

Outreach objectives would entail explaining who the Board is, what it does by raising awareness about the Board's initiatives, increase the number of engagements with the Board's followers and business community, and communicate initiates with easily understandable messaging. Ms. Collado explained that, in addition to using YouTube, utilizing other platforms such as Facebook, LinkedIn, and Instagram might be better platforms and more beneficial for the Board's objectives.

Further, instead of doing a 5-minute YouTube video where people might lose interest after a few minutes, it was recommended reducing the video to smaller bites such as one to two minutes, at the most, to explain who the Board is, what it does, and what issues and problems this Board helps solve for small businesses.

Specific content might include the following:
- Who is the SBRRB?
- Testimonies / success stories
- Board roles + responsibilities
- How to get involved
- SBRRB in action
- How to get business support from the business community

Publicizing the Board's zoom meeting minutes rather than just keeping them on the website was suggested. Also suggested was revising the monthly e-newsletter that would be more

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

Amendments to and Compilation of Chapters 12-220, 12-222.1, 12-223.1, and 12-224.1. Hawaii Administrative Rules

January 1, 2024

1. Chapter 12-220, Hawaii Administrative Rules, entitled "General, Administrative, and Legal Provisions", is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION

PART 10

PRESSURE RETAINING ITEMS

CHAPTER 220

GENERAL, ADMINISTRATIVE, AND LEGAL PROVISIONS

§12-220-1 Definitions

Historical Note: Chapter 220 of title 12 is based upon chapter 377 of the Hawaii Occupational Safety and Health Standards, Rules and Regulations. [Eff 7/11/74; am 6/7/76; am 12/30/76; am 8/22/77; am 8/11/78; am 8/23/79; R 7/12/82]

§12-220-1 Definitions. As used in this part:

"Accident" means any undesired boiler or pressure vessel event that results in personal injury or property damage. This does not include events of a routine nature due to the normal operation of a boiler or pressure vessel such as tube leaks, general leakage from the pressure boundary, corrosion, erosion, or other events that are typically associated with maintenance or repair.

"AIA" means:

(1) The department of labor and industrial relations boiler and elevator inspection branch; [~~or~~]

(2) An insurance company which has been licensed or registered by the appropriate authority of the State of Hawaii to write boiler and pressure vessel insurance and provides inspection services of [~~boilers and pressure vessels and pressure systems~~] pressure retaining items in this State, and whose inspectors hold a valid commission issued by the National Board, and possess a valid State of Hawaii certificate of competency. The insurance company shall be accredited by the

National Board in accordance with NB-369, Accreditation of Authorized Inspection Agencies (AIA) Performing Inservice Inspection Activities[~~.~~]; or

(3) An OUIO approved by the director.

"Alteration" means a change in the item described on the original manufacturer's data report that affects the pressure containing capability of the pressure retaining item. Nonphysical changes such as an increase in the maximum allowable working pressure (internal or external), increase in design temperature, or a reduction in minimum temperature of a pressure retaining item, shall be considered an alteration.

"ANSI" means the American National Standards Institute.

[~~"Appeals board" means the department of labor and industrial relations, labor and industrial relations appeals board.~~]

"API" means the American Petroleum Institute.

"API-510" means the American Petroleum Institute Pressure Vessel Inspection Code: In-service Inspection, Rating, Repair, and Alteration.

"Appeals board" means the department of labor and industrial relations, labor and industrial relations appeals board.

"Application" means a written or electronic request for approval required by law to be obtained prior to the installation, operation, or repair or alteration of a pressure retaining item.

"Approved" means approved by the department.

"Appurtenance" means a device installed on and used in the normal operation of a boiler or pressure vessel.

"ASME" means the American Society of Mechanical Engineers.

"ASME B31.1" means the American Society of Mechanical Engineers Power Piping, as adopted and incorporated by reference in section 12-220-1.1.

"ASME BPVC" means the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, as adopted and incorporated by reference in section 12-220-1.1.

"ASME CSD-1" means the American Society of Mechanical Engineers Controls and Safety Devices for Automatically Fired Boilers, as adopted and incorporated by reference in section 12-220-1.1.

"ASME PVHO 1" means the American Society of Mechanical Engineers, Safety Standards for Pressure Vessels for Human Occupancy, as adopted and incorporated by reference in section 12-220-1.1.

"ASME PVHO 2" means the American Society of Mechanical Engineers Safety Standard for Pressure Vessels for Human Occupancy: In-Service Guidelines, as adopted and incorporated by reference in section 12-220-1.1.

"Attorney general" means the attorney general of the State of Hawaii or any of the deputy attorneys general.

"Authorized inspection agency" means the same as AIA.

"Boiler" means a closed vessel in which water or other liquid is heated, steam or vapor is generated, steam or vapor is superheated, or any combination thereof, under pressure for use external to itself, by the direct application of energy from the combustion of fuels, electricity, or solar energy. The term boiler also shall include the apparatus used to generate heat and all controls and safety devices associated with the apparatus or the closed vessel.

"Boiler external piping" or "BEP" means all piping and components connected to a power boiler as defined in ASME B31.1 and ASME BPVC Section I Power Boilers.

"Certificate of competency" means a certificate issued to a person who has passed the examination prescribed by the director.

"Chief boiler inspector" means the appointed chief boiler and pressure vessel inspector in the jurisdiction charged with the enforcement of laws pertaining to the inspection of boilers and pressure vessels. The chief boiler inspector represents the jurisdiction as the voting member of the National Board and serves as an ASME Conference Committee member.

"Commission" means the commission issued by the National Board.

"Condemned boiler or pressure vessel" means a boiler or pressure vessel that has been inspected and declared unsafe or disqualified by legal requirements by an inspector and a stamping or marking designating its condemnation has been applied by the inspector.

"Contractor" means any person, firm, or corporation installing, repairing, or servicing and responsible for the safe operation of any pressure retaining item subject to chapter 397, HRS.

"Department" or "DLIR" means the department of labor and industrial relations, State of Hawaii.

"Director" means the director of the department of labor and industrial relations or the director's agent.

"Discrepancy" means the nonconformance of an item, unit, or part to a code, standard, or rule required by part 10 of this subtitle.

"Division" means the Hawaii occupational safety and health division, department of labor and industrial relations.

"Electric boiler" means a power boiler or heating boiler in which the source of heat is electricity.

"Existing installation" means any [~~boiler or pressure vessel constructed,~~] pressure retaining item installed, placed in operation, or contracted for before the effective date of these rules.

"Factor of safety" is the number by which a given permissible force, or load, value can be multiplied before the boiler or pressure vessel reaches its ultimate design strength value.

"Fired" means the application of heat from the combustion of gaseous, liquid, or solid fuels; or from electricity; which includes direct or indirect fired provided that:

(1) "Direct" means the primary application of heat[~~.~~]; and

(2) "Indirect" means other than the primary application of heat.

"Fuel" means any matter consumed to produce heat.

"Hawaii Revised Statutes" or "HRS" means laws enacted by the Hawaii State Legislature.

"Heat" means thermal energy in transition by radiation, conduction, convection, or any combination of these.

"Heat recovery steam generator" means a vessel or system of vessels comprising one or more heat exchanger surfaces used for the recovery of waste heat. It produces steam that can be used in a process (cogeneration) or used to drive a steam turbine (combined cycle).

"Heating boilers" means steam heating boilers, hot-water heating boilers, hot-water supply boilers, and potable water heaters.

"High-temperature water boiler" means a power boiler in which water is heated and operates at a pressure more than 160 psig or temperatures more than 250 degrees Fahrenheit, and has the ASME Code symbol stamp or ASME certification mark with the designator "S".

"Hot-water heating boiler" means a hot water boiler installed to operate at pressures not exceeding 160 psig or at a temperature not exceeding 250 degrees Fahrenheit, at or near the boiler outlet, and that has the ASME Code symbol stamp or ASME certification mark with the designator "H".

"Hot-water supply boiler" means a boiler that furnishes hot water to be used externally to itself at a pressure not exceeding 160 psig or at a temperature less than or equal to 250 degrees Fahrenheit at or near the boiler outlet, and that has the ASME Code symbol stamp or ASME certification mark with the designator "H".

"Hydrostatic test" means a liquid pressure test which is conducted using water as the test medium.

"Inspector" means a qualified boiler inspector, including the chief boiler inspector, deputy boiler inspector, special inspector, or owner-user inspector holding a valid certificate of competency issued by the department, who has satisfied the requirements established by the department and has a valid National Board commission:

(1) "Chief boiler inspector" means the appointed chief boiler and pressure vessel inspector;

(2) "Deputy boiler inspector" means any boiler inspector employed by the department;

(3) "Special inspector" means any inspector who is [~~regularly~~] exclusively employed by an insurance company which has been licensed or

registered by the appropriate authority of the State of Hawaii to write boiler and pressure vessel insurance and provide inspection services of pressure retaining items in this State; and

(4) "Owner-user inspector" means an inspector who is [~~regularly~~] exclusively employed as an inspector by an owner-user inspection organization.

"Jurisdiction" means the State of Hawaii.

"Lined potable water heater" means a water heater with a corrosion resistant lining used to supply potable hot water.

"May" means permissive.

"Miniature boiler" means a power boiler or high temperature water boiler which does not exceed any one of these limits:

(1) Sixteen inches (16) inside diameter of shell;
(2) Twenty (20) square feet heating surface (not applicable to electric boilers);
(3) Five (5) cubic feet gross volume exclusive of casing and insulation; and
(4) One hundred (100) psig maximum allowable working pressure.

"National Board" or "NB" means the National Board of Boiler and Pressure Vessel Inspectors.

"National Board Inspection Code" or "NBIC" means the National Board Inspection Code as adopted and incorporated by reference in section 12-220-1.1.

"NB-263, RCI-1" means the National Board Rules for Commissioned Inspectors.

"NB-264" means the National Board Criteria for Registration.

"NB-369" means the National Board Accreditation of Authorized Inspection Agencies (AIA) Performing Inservice Inspection Activities.

"NB-371" means the National Board Accreditation of Owner-User Inspection Organizations (OUIO).

"NB-381" means the National Board Quality Program for Inspection Organizations.

"NB-415" means the National Board Accreditation of "R" Repair Organizations.

"NBEP" means non-boiler external piping that refers to all piping and components connected downstream of the boiler external piping as defined in ASME B31.1.

"NBEP certificate" means a certificate issued by the department to a company that is qualified to design, fabricate, install, repair, or alter non-boiler external piping. A company that applies for a NBEP authorization without a valid ASME certificate of authorization with a "S", "A", or "PP" designator, or a valid NB "R" certificate of authorization, may be issued a certificate limited in scope of work to a MAWP of 150 psi or less, and a pipe size to three (3) inches in diameter or less. The provisions of ASME B31.1 shall apply, including the quality control requirements in Mandatory Appendix J.

"NBIC" means the National Boiler Inspection Code, as adopted and incorporated by reference in section 12-220-1.1.

"New boiler or pressure vessel installation" means all [~~boilers or pressure vessels constructed,~~] pressure retaining items installed, placed in operation, or contracted for after the effective date of these rules.

"NFPA" means the National Fire Protection Association.

"NFPA 31" means the National Fire Protection Association Standard for the Installation of Oil-Burning Equipment.

"NFPA 54, ANSI Z223.1" means the National Fire Protection Association National Fuel Gas Code.

"NFPA 58" means the National Fire Protection Association Liquefied Petroleum Gas Code.

"NFPA 70" means the National Fire Protection Association National Electrical Code, as adopted and incorporated by reference in section 12-220-1.1.

"NFPA 85" means the National Fire Protection Association Boiler and Combustion Systems Hazards Code, as adopted and incorporated by reference in section 12-220-1.1.

"Non-code water heater" means a closed vessel in which water is heated by the combustion of fuels or by electricity, or by any other source, and withdrawn for use external to the system and not exceeding the following: 160 psig, volume capacity of less than 120

gallons, or a heat input of 200,000 Btu per hour. It shall include all controls and devices necessary to prevent water temperature from exceeding 210 degrees Fahrenheit.

"Nonstandard or non-code" means a pressure retaining item that does not bear the ASME BPVC symbol or ASME certification mark with the appropriate designator and National Board stamping.

"NPS" means nominal pipe size.

"Operating permit" [~~or "certificate of inspection"~~] means a permit issued by the department authorizing the operation of a pressure retaining item.

"Order" means a command to perform a mandatory act issued by the department.

"Owner" means any person, firm, entity, or corporation with legal title to any pressure retaining item subject to chapter 397, HRS, who may or may not be the user.

"Owner-user inspection organization" or "OUIO" means an owner or user of pressure retaining items, whose organization and inspection procedures meet the requirements of NB-371, and is [~~acceptable to the jurisdiction.~~] approved by the department.

"Permit inspection" means an inspection, the report of which is used by the department as justification for issuing, withholding, or revoking the operating permit which includes internal and external inspections.

(1) "Internal inspection" means as complete an examination as can reasonably be made to the internal and external surfaces of a boiler or pressure vessel while it is shut down, and manhole plates or handhole covers, or other inspection opening closures, are removed as required by the inspector[~~.~~]; and

(2) "External inspection" means an inspection made when a boiler or pressure vessel is in operation, when the controls, safety devices, and pressure containing components are examined.

"Pool heater" means a boiler in which no steam is generated, from which hot water is circulated to a swimming pool, hot tub, or spa, and returned to the boiler, and operates at a pressure not exceeding 160

psig, or a temperature not exceeding 250 degrees Fahrenheit.

"Portable boiler" means a boiler that is primarily intended to be conveyable and can be readily moved from one location to another.

"Power boiler" means a boiler in which steam or other vapor is generated at a pressure in excess of fifteen (15) psig for use external to itself and includes fired units for vaporizing liquids other than water, but does not include fired process heaters and systems (see also high-temperature water boiler), and has the ASME Code symbol stamp or ASME certification mark with designators "S", "M", or "E".

"Pressure piping" means piping systems specified in ASME B31.1.

"Pressure retaining item" means boiler, pressure vessel, or pressure system.

"Pressure system" means a system composed of unfired pressure vessels and piping components for liquid or vapor distribution at a pressure of more than fifteen (15) psi or a temperature more than 250 degrees Fahrenheit, or both, that includes, but is not limited to, a bank of pressure vessels, including those of a size that does not require permits, and are connected with or without any intervening valves.

"Pressure vessel" means a closed vessel in which the pressure is obtained from an external source, or by the application of heat from either an indirect or direct source, other than those vessels defined as boilers in this section, which includes fired and unfired pressure vessels.

(1) "Fired pressure vessel" means a closed vessel in which fluid is heated or steam is generated for use within itself by the direct or indirect application of heat[~~.~~]; and

(2) "Unfired pressure vessel" means a closed vessel in which pressure is obtained from an external source.

"Psi" means pounds per square inch.

"Psig" means pounds per square inch gage.

"Reinstalled boiler or pressure vessel" means a boiler or pressure vessel removed from its original site

and reinstalled at the same location or at a new location.

"Relief valve" means an automatic pressure relieving device, used primarily for liquid service, actuated by the static pressure upstream of the valve that opens further with the increase in pressure over the opening pressure.

"Repair" means the work necessary to restore a boiler or pressure vessel to a safe and satisfactory operating condition, provided there is no deviation from the original design.

"Safety relief valve" means an automatic, pressure-actuated relieving device suitable for use either as a safety valve or relief valve depending on the application.

"Safety valve" means an automatic pressure relieving device, used for gas or vapor service, actuated by the static pressure upstream of the valve, and characterized by full-opening pop action.

"School" means an institution of learning, which includes preschools, elementary schools, intermediate or middle schools, high schools, technical schools, trade schools, and colleges and universities.

"Second-hand boiler or pressure vessel" or "used boiler or pressure vessel" means a boiler or pressure vessel that has changed both location and ownership since its primary use.

"Shall" means mandatory.

"Standard pressure retaining item" means a pressure retaining item which bears both the ASME Code symbol or ASME certification mark and National Board number.

"State special" means any non-code or nonstandard pressure retaining item, including water heaters and kettles, which contain steam, hot water, or air greater than fifteen (15) psi, and are located or installed on school property.

"Steam heating boiler" means a steam boiler for operation at pressures not exceeding fifteen (15) psig, and has the ASME Code symbol stamp or ASME certification mark with designator "H".

"Thermal fluid boiler" means a fluid heater intended for heating a fluid for circulation externally to itself for energy transfer.

"Unfired" means the application of pressure or heat that is obtained from an external source.

"User" means any person, firm, entity, or corporation legally in possession and responsible for the safe operation of any pressure retaining item subject to chapter 397, HRS.

"Vendor" means any person, firm, entity, or corporation that sells or distributes any pressure retaining item subject to chapter 397, HRS.

"Violation" means nonconformance of an item, unit, or part to codes, standards, or rules required by this subtitle.

"Welding documentation" means the welding procedure specifications, procedure qualification records, records of welder or welding operator performance qualification, welder's continuity log, and reports of welded repairs or alterations.

[Eff 12/6/82; am 12/19/83; am 12/8/86; am and comp 12/6/90; am 7/6/98; am 6/19/00; am 11/18/12; am and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-1.1 Codes incorporated and adopted by reference. The following codes are adopted by reference and made a part of this chapter and shall apply to all pressure retaining items in this part, unless otherwise modified by rules pertaining to pressure retaining items:

(1) [~~ASME B31.1-2016,~~] ASME B31.1-2020, Power Piping Code, as published by the American Society of Mechanical Engineers;

(2) [~~ASME BPVC-2017,~~] ASME BPVC-2021, Boiler and Pressure Vessel Code, as published by the American Society of Mechanical Engineers;

(3) [~~ASME CSD-1-2012,~~] ASME CSD-1-2021, Controls and Safety Devices for Automatically Fired Boilers, as published by the American Society of Mechanical Engineers;

(4) [~~ASME PVHO 1-2012,~~] ASME PVHO 1-2016, Safety Standard for Pressure Vessels for Human

Occupancy, as published by the American Society of Mechanical Engineers;

(5) [~~ASME PVHO 2-2012,~~] ASME PVHO 2-2016, Safety Standard for Pressure Vessels for Human Occupancy: In-Service Guidelines, as published by the American Society of Mechanical Engineers;

(6) NBIC [~~2017 edition,~~] 2021 Edition, National Board Inspection Code, as published by the National Board of Boiler and Pressure Vessel Inspectors;

(7) NFPA 70, National Electrical Code, [~~2002 edition,~~] 2017 Edition, as published by the National Fire Protection Association; and

(8) NFPA 85, National Fire Protection Association Boiler and Combustion Systems Hazards Code, [~~2015 edition,~~] 2019 Edition, as published by the National Fire Protection Association.

[Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-2 Minimum construction standards. (a) All new [~~boilers and pressure vessels,~~] pressure retaining items, unless otherwise exempt[~~,~~] from this part and chapter 397, HRS, for operation in Hawaii, shall be designed, constructed, and marked in accordance with the ASME BPVC, including Code Cases, and registered with the National Board in accordance with NB-264. Pressure vessels for human occupancy must meet these requirements and comply with ASME PVHO 1 and 2. A copy of the manufacturer's data report shall be filed with the department.

(b) If a boiler or pressure vessel does not bear the ASME and National Board stamping, details written in the English language, and United States customary units of the proposed construction, material specifications, and calculations, approved by a [~~licensed or registered~~] professional engineer licensed or registered in the United States or Canada and experienced in boiler and pressure vessel design, shall be submitted to the

department by the owner or user for approval as a nonstandard, non-code or State special before construction and installation is started. [Eff 12/9/82; am, ren §12-220-2, and comp 12/6/90; am 7/6/98; am and comp 12/21/19; am and comp] (Auth: HRS (§397-4) (Imp: HRS §397-4)

§12-220-2.1 Requirements for new installations. (a) New installations shall comply with the technical requirements contained in chapters 12-222.1 through 12-225.1 and require the submission of an application on a form prescribed by the department for an installation permit prior to the commencement of work. A complete application shall include:

(1) Date of application, project name, and address;
(2) Installers' name, address, and installers' type of license held along with the expiration date;
(3) Contact person and phone number for both the owner and the installer;
(4) National Board number for each pressure retaining item to be installed;
(5) Copy of the ASME manufacturer's data report;
(6) Floor plan layout with clearance dimensions; and
(7) Piping and instrumentation diagram.

(b) Applications for new installations must be accompanied by the remittance of the appropriate installation fee for each pressure retaining item subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter.

(c) No pressure retaining item shall be issued a permit to operate in the State unless it has been constructed in conformity with the ASME BPVC, registered with the National Board, and installed in conformity with this chapter except:

(1) Those pressure retaining items exempt from chapter 397, HRS;
(2) Those pressure retaining items outlined in section 12-220-2(b);
(3) Pressure retaining items under federal inspection and control;
(4) Unfired pressure vessels meeting the requirements of the United States Department of Transportation, and used for transporting liquids or gases under pressure;
(5) Unfired pressure vessels with a nominal water-containing capacity of 120 gallons or less for containing liquid under pressure, including those containing air, the compression of which serves only as a cushion;
(6) Hot-water supply boilers, hot-water heating boilers, and potable water heaters that are directly fired with oil, gas, or electricity, except that hot-water supply boilers shall be equipped with a proper size, type, and capacity safety relief valve as set forth in section IV of the ASME BPVC, when none of the following limitations are exceeded:
    (A) A heat input of 200,000 Btu per hour;
    (B) A water temperature of 210 degrees Fahrenheit;
    (C) A nominal water-containing capacity of 120 gallons; and
    (D) An operating pressure not exceeding 160 psi;
(7) Unfired pressure vessels designed for a pressure not exceeding fifteen (15) psi [~~or~~] and five (5) cubic feet in volume;
(8) Pressure vessels not exceeding:
    (A) Five (5) cubic feet in volume and 250 psi design pressure;
    (B) Three (3) cubic feet in volume and 350 psi design pressure; or
    (C) One and one-half (1.5) cubic feet in volume and 600 psi design pressure[~~; or~~];
    [~~(D) An inside diameter of six (6) inches with no limitation on pressure;~~]

(9) Unfired pressure vessels containing water and filtering material for use in irrigation of land;

(10) Unfired pressure vessels for the storage of cold water;

(11) Fired or self-contained sterilizers, steam generators, jacketed kettles, or steam cookers when [~~one~~] neither of the following limitations is [~~not~~] exceeded:

(A) Heat input of three (3.0) KW; or

(B) A volume of one and one half (1.5) cubic feet;

(12) Unfired pressure vessels and piping containing liquid petroleum gas and liquid natural gas (except that welded repairs and alterations shall be in accordance with section 12-220-8.1);

(13) Refrigeration pressure vessels and its associated piping (except that welded repairs and alterations shall be in accordance with section 12-220-8.1);

(14) Liquid carbon dioxide pressure vessels (except that welded repairs and alterations shall be in accordance with section 12-220-8.1);

(15) A hot water heater constructed of continuous coils, which is used only to produce steam vapor to clean machinery, equipment, and buildings, if:

(A) The tubing or pipe size does not exceed three-fourths (3/4) of an inch in diameter and drums and headers are not attached;

(B) The nominal water-containing capacity does not exceed six (6) gallons;

(C) The water temperatures do not exceed 350 degrees Fahrenheit; and

(D) Steam is not generated within the coil; and

(16) Pressure vessels containing water heated by steam or any other indirect means when none of the following limitations are exceeded:

(A) A heat input of 200,000 Btu per hour; and

(B) A water temperature of 210 degrees Fahrenheit provided such pressure vessels shall be equipped with an ASME-NB stamped safety relief valve.

(d) The marking done in accordance with the original code of construction and section 12-220-29.1 shall not be concealed by lagging or paint and shall be exposed unless a suitable record is kept of the location of the stamping so that it may be readily uncovered at any time. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

Historical note: §12-220-2.1 is based substantially upon §12-220-11. [Eff 12/6/82; am 12/8/86; am and ren §12-220-11, and comp 12/6/90; am 7/6/98; am 6/19/00; am 11/18/12; R 12/21/19]

§12-220-3 Repealed. [R 12/21/19]

§12-220-4 Restrictions on nonstandard pressure retaining items. The installation, operation, sale, or the offering for sale of nonstandard pressure retaining items in Hawaii is prohibited without the expressed written permission of the department (refer to section 12-220-32.1). [Eff 12/6/82; am 12/8/86; am, and ren §12-220-4, and comp 12/6/90; am 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-5 Installation of used pressure retaining items. Used or second-hand pressure retaining items, when installed in this jurisdiction, shall require the owner to provide in-service inspection reports for at least the last five years and copy of any report of repairs and alterations. These pressure retaining items

shall be equipped with fittings and appurtenances that comply with the requirements for new installations. [Eff 12/6/82; am, ren §12-220-5, and comp 12/6/90; am 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §§397-4, 397-6) (Imp: HRS §§397-4, 397-6)

§12-220-6 Re-installed pressure retaining items. (a) If a pressure retaining item is removed from its original site and is to be re-installed at the same location, or at a new location, the contractor, user, or owner must apply to the department for a permit for installation before re-installing the pressure retaining item. The fittings and appurtenances must comply with the requirements for the installation of a new pressure retaining item.

(b) If a standard pressure retaining item is to be moved to another state for temporary use or repair, the owner of the pressure retaining item or his or her agent must apply to the department for approval to re-install the pressure retaining item within this State. [Eff 12/6/82; am, ren §12-220-6, and comp 12/6/90; am 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-7 Working pressure for existing installations. Subject to approval by the department, any inspector may decrease the working pressure on any existing installation if the condition of the pressure retaining item warrants. If the owner or user does not concur with the inspector's decision, the owner or user may appeal to the director pursuant to section 12-220-33.1. [Eff 12/6/82; am, ren §12-220-7, and comp 12/6/90; am 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-8 Repealed. [R 12/21/19]

§12-220-8.1 Repairs and alterations. (a) Repairs, routine repairs, and alterations to pressure retaining items shall be in accordance with the requirements of the NBIC, Part 3, and this part. Applications for authorization for routine repair, repair, or alteration shall be submitted in the prescribed form and must be accompanied by the remittance of the appropriate fee for each pressure retaining item subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter, and inspection fee for each pressure retaining item subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter. The applicant shall submit all the required documents and remittance fees to the department prior to commencement of work. A complete application shall include the name of the applicant, address, telephone number, NB "R" certificate of authorization number and expiration date, AIA of record, and name of the commissioned repair inspector.

(b) No pressure retaining item subject to this part shall be repaired or altered in the State unless:

(1) For routine repairs, in addition to the requirements of subsection (a), a copy of the manufacturer's data report and all partial data reports shall be submitted along with a detailed description of the proposed routine repair, drawings or pictures, material specifications, and a copy of the traveler or routine repair procedure to be used;

(2) For repairs, in addition to the requirements of subsection (a), a copy of the manufacturer's data report and all partial data reports shall be submitted along with a detailed description of the proposed repair, drawings or pictures, design calculations (if available), material specifications, and a copy of the traveler or repair procedure to be used; and

(3) For alterations, in addition to the requirements of subsection (a), a copy of the manufacturer's data report and all partial data reports shall be submitted along with a detailed description of the proposed alteration, drawings or pictures, design calculations, material specifications, and a copy of the traveler or alteration procedure to be used, and when applicable, a new maximum allowable working pressure and temperature of the pressure retaining item.

(c) It shall be the responsibility of the holder of a National Board "R" certificate of authorization making the routine repair, repair, or alteration to have a valid inspection contract or agreement in force at all times with an AIA that employs qualified boiler inspectors in compliance with NB-263, RCI-1 Rules for Commissioned Inspectors, and this part.

(d) It shall be the responsibility of the holder of a NB "R" certificate of authorization making the routine repair, repair, or alteration to provide for inspection, documentation, and certification of the work. A fully executed National Board "R" form shall be submitted to the department within thirty (30) days following the completion of the routine repairs, repairs, or alterations. Drawings or pictures, design calculations, non-destructive examination records, and traveler and other pertinent documents shall be maintained by the NB "R" certificate holder for five (5) years. The inspection agency responsible for the in-service inspection of the boiler or pressure vessel shall have access to review the fully executed National Board "R" form and other pertinent documents.

(e) All NB "R" forms, except routine repair ones, shall be registered with the National Board. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

Historical note: §12-220-8.1 is based substantially upon §12-220-8. [Eff 12/6/82; am 12/8/86; am and ren §12-220-8 and comp 12/6/90; am 7/6/98; am 6/19/00; am 11/18/12; R 12/21/19]

§12-220-9 Repealed. [R 12/21/19]

§12-220-9.1 Design, construction, fabrication, installation, repair, or alteration of boiler external and non-boiler external piping. (a) Application for authorization for installation of boiler external piping shall be submitted to the department prior to the commencement of work. An application shall be submitted in the form prescribed by the director and must be accompanied by the remittance of the fee for each boiler external piping subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter, and inspection fee for each pressure retaining item subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter. A complete application shall include:

(1) Date of application, project name, and address;
(2) Manufacturer's and installer's name, address, and installer's type of license held along with the expiration date;
(3) Contact person and phone number for the owner, manufacturer, and installer;
(4) National Board number of the boiler where the piping is to be installed;
(5) Copy of the ASME manufacturer's data report and partial data reports;
(6) Floor plan layout with clearance dimensions; and
(7) Piping and instrumentation diagram.

(b) Application for authorization for design, fabrication, installation, repair, or alteration of non-boiler external piping shall be submitted by a holder of a valid ASME certificate of authorization with "S", "A", or "PP" designator, a NB "R" authorization, or a NBEP

Hawaii certification of authorization, to the department prior to the commencement of work. An application shall be submitted on a form provided by the department and must be accompanied by the remittance of the fee for each non-boiler external piping subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter, and inspection fee for each pressure retaining item subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter. A complete application shall include:

(1) Date of application, project name, and address;

(2) Manufacturer's and installer's name, address, and installer's type of license held along with the expiration date;

(3) Contact person and phone number for the owner, manufacturer, and installer;

(4) National Board number of the boiler where the piping is to be installed;

(5) Copy of the ASME manufacturer's data report;

(6) Floor plan layout with clearance dimensions; and

(7) Piping and instrumentation diagram.

(c) Repairs and alterations of NBEP shall be in accordance with NBIC Part 3 and ASME B31.1 whenever applicable. Repair inspector involvement may be waived, and stamping is not mandatory. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-10 Pressure relief devices. (a) No person shall attempt to remove or do any repair or modification on any pressure relief device prescribed by these rules while the device is subject to pressure.

(b) Should any of these pressure relief devices be removed for repair during an outage of a boiler or pressure vessel, they must be re-installed and in proper working order before the object is placed in service.

(c) No person shall alter any safety or safety-relief valves or pressure relief devices in any manner to maintain a working pressure in excess of that stated on the pressure retaining item operating permit.

(d) Repair of safety valves shall be made only by an organization which holds a valid certificate of authorization for use of the National Board "VR" safety valve repair symbol stamp.

(e) Where a valve has been tested and adjusted to restore the set pressure shown on the unmodified original nameplate or stamping, or repair nameplate but not otherwise repaired, a "Test Only" nameplate shall be applied. [Eff 12/6/82; am 12/8/86; am, ren §12-220-10, and comp 12/6/90; am 7/6/98; am 6/19/00; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-10.1 Re-stamping or replacement of nameplate of pressure retaining items. When the stamping on a pressure retaining item becomes indistinct or the nameplate is lost, illegible, or detached, but traceability to the original pressure retaining item is still possible, the inspector shall instruct the owner or user to have the stamped data replaced, following the requirements of the original code of construction, except as modified herein. An application to re-stamp or replace nameplates shall be made to the department using the National Board Replacement of Stamped Data Form (NB-136), and must be accompanied by proof of the original stamping and other such data, as is available, and the remittance of the appropriate fee for each pressure retaining item subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter, and inspection fee for each

pressure retaining item subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter. Additional fees may apply if the department is requested to witness the attachment of the replacement nameplate. When that traceability cannot be established, the department shall be contacted. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

Historical note: §12-220-10.1 is based substantially upon §12-220-3. [Eff 12/6/82; am and ren §12-220-3 and comp 12/6/90; R 12/21/19]

§12-220-11 Repealed. [R 12/21/19]

§12-220-11.1 Quality control reviews and audits. (a) At the request of a repair organization for boilers or pressure vessels, the department may conduct an inspection and review of the organization's quality control program and facilities. This inspection shall be for the purpose of renewal of authorization to use the National Board "R" symbol stamp. Such requests shall be submitted to the department at least six (6) months prior the expiration date. Initial quality control reviews shall be done by the National Board. If the chief boiler inspector or a deputy inspector is qualified as a National Board team leader to conduct an "R" stamp renewal, the department shall conduct all required reviews after the initial review for renewal of the National Board "R" stamp.

(b) At the request of the National Board, of the ASME, or of a boiler, pressure vessel or component parts manufacturer, the department may conduct an inspection of a manufacturer's quality control program and facilities. This inspection shall be for the purpose of renewal of authorization

to use the applicable non-nuclear ASME certification marks. Requests shall be submitted to the department at least six (6) months prior the expiration date of certification marks. Initial quality control reviews shall be conducted by the ASME or an ASME designee. If the chief boiler inspector or a deputy inspector is qualified as an ASME review team leader to conduct non-nuclear ASME joint reviews, the department shall conduct all required reviews after the initial review for renewal of the non-nuclear ASME certification marks.

(c) At the request of the National Board, of the ASME, of a repair organization, or of a boiler, pressure vessel or component parts manufacturer, the department may participate as an observer in the inspection of their quality control program and facilities. This inspection shall be for the new issuance of authorization to use the applicable National Board stamps or ASME certification marks.

(d) Quality control reviews and audits conducted by the department to meet the requirements of subsections (a), (b), and (c) shall be charged as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated October 1, 2023, which is made part of this chapter and located at the end of this chapter. An inspection fee for each pressure retaining item subject to this part shall be charged as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter. [Eff] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-12 Care of pressure retaining item spaces. (a) The pressure retaining item space shall be free from accumulation of rubbish and materials that may obstruct access to the pressure retaining item, or appurtenance. The clearances identical to those required for new installations under section 12-220-2.1 shall

always be maintained for all types of pressure retaining items.

(b) Users shall ensure that the following conditions always exist with regards to pressure retaining item spaces:

(1) The storage of flammable materials or fuel-powered equipment is prohibited;

(2) The roof over indoor installations is free from leaks and maintained in good condition;

(3) Adequate floor drainage exists; and

(4) All exit doors open outwards.

[Eff 12/19/84; ren and comp 12/6/90; am 11/18/12, am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-13 Conditions not treated in this part. For any conditions not treated in this part, the applicable provisions of the ASME BPVC, ASME B31.1, ASME CSD-1, ASME PVHO 1, ASME PVHO 2, and the NBIC, and other publications adopted herein shall apply. API-510 shall not take precedence over the safety standards of this part or any reference codes. However, variances may be granted in accordance with section 12-220-33.1. [Eff 12/6/82; am 12/8/86; am, ren §12-220-11, and comp 12/6/90; 7/6/98; 6/19/00; am 11/18/12; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-14 Complaints. (a) Complaints may be made to the department, and where reasonable grounds exist for the department to believe there may be a hazard, there shall be an inspection in response to the complaint.

(b) Names of all complainants and witnesses shall be held in confidence by the department, unless prior permission has been given by the complainant or witness to release his or her name, or unless it has been determined by the attorney general that disclosure is

necessary for enforcement and review of this chapter. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-15 Permits. (a) An installation permit shall be issued by the department based on the approval of drawings and specifications pertaining to the installation of pressure retaining items. An application shall be submitted in the prescribed form and must be accompanied by the remittance fee for each pressure retaining item subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter, and located at the end of this chapter, and inspection fee for each boiler, pressure vessel, or pressure system subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter.

The contractor shall be responsible for furnishing to the department all documentation required and referenced in the standards and codes adopted by the department for installation, construction, routine repair, repair, or alteration of any pressure retaining item, NBEP, and BEP.

(b) No person shall install, construct, reconstruct, or relocate any pressure retaining item without first obtaining an installation permit from the department.

(1) The plans and specifications for installation of pressure retaining items together with pertinent details shall be submitted to the department prior to commencement of work. Plans shall be resubmitted for any project in which the installation has not commenced within three years of the plan approval date. Copies of engineering data, tests, manufacturer's data reports, laboratory

reports, and any other pertinent information deemed necessary by the department shall be submitted by the installer on any new equipment or appurtenance to be installed for the first time in the State of Hawaii; and

(2) An installation permit as required under subsection (a) shall be issued only to a person who is licensed to engage in the business of installing or repairing pressure retaining items by the contractors license board of the department of commerce and consumer affairs, State of Hawaii. All installation permit applications shall be deemed approved if not acted upon by the department within thirty calendar days from the date of receipt of the completed application.

(c) Permits for repairs, routine repairs, or alterations shall be issued upon the approval of code routine repair, repair, or alteration application submitted by the holder of NB "R" certificate of authorization. An application shall be submitted in the prescribed form and must be accompanied by the remittance of the fee for each pressure retaining item subject to this part as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter provided that:

(1) NBEP repair or alteration permits shall be issued upon approval of NBEP repair or alteration application submitted by the holder of an NBEP or ASME "S", "A", "PP", or NB "R" certificate of authorization; and

(2) The department shall issue an NBEP repair or alteration permit to a holder of an NBEP or ASME "S", "A", "PP", or NB "R" certificate of authorization in accordance with section 12-220-9.1.

(d) Permits to operate or certificates of inspection shall be issued based on the report of the

acceptance inspection and each permit renewal inspection.

(e) The department shall issue a permit to operate for any pressure retaining item required by these rules and inspected by an inspector and found to be safe and in compliance with this subtitle. The owner or user shall remit upon application an inspection fee for each pressure retaining item subject to this part as per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made a part of this chapter and located at the end of this chapter. It shall be unlawful for any person, firm, association, partnership, or corporation to operate a pressure retaining item regulated by this chapter unless a permit for the operation has been authorized by the department and the permit remains in effect provided that:

(1) A permit to operate a pressure retaining item shall be issued to the owner or lessee only after an inspector has found that the device has met all requirements of this chapter;

(2) A valid permit may be extended for cause by the department if so requested in writing by the owner or lessee to the chief boiler inspector. The absence of a special inspector to conduct a permit renewal inspection shall not be accepted as a valid reason for granting the permit extension;

(3) The permit to operate shall indicate the type of equipment for which it is issued, the maximum allowable working pressure, and the National Board number. The permit to operate shall be posted in a conspicuous location nearby the unit;

(4) The department may immediately revoke any permit to operate or certificate of inspection for any pressure retaining item, required to be inspected by this chapter, found to be in an unsafe condition, or is not properly guarded or is dangerously placed, or when a user, owner, or contractor fails to

comply with department orders to correct specific defects or hazards and continues to use or operate the pressure retaining item;

(5) The department shall reissue a permit to operate to any user, owner, or contractor who demonstrates good faith in attempting to abate all nonconforming conditions specified in department orders provided the pressure retaining item is safe to operate;

(6) A permit to operate or certificate of inspection shall be valid only at the location for which it was issued except for boilers or pressure vessels which are indicated on the permit as being portable;

(7) No pressure retaining item that is required to be inspected by chapter 397, HRS, or by any rule adopted pursuant to chapter 91, HRS, shall be operated except as necessary to install, repair, or test, unless a permit to operate or certificate of inspection has been authorized or issued by the department and remains valid; and

(8) The department may, upon the application of any owner or user or any other person affected thereby, grant a reasonable period as may be necessary, but not longer than ninety days, for compliance with any order to render the pressure retaining item safe. Any person affected by an order may for cause petition the department for an extension of time to render the pressure retaining item safe.

[Eff 12/6/82; am 12/8/86; am, ren §12-220-15, and comp 12/6/90; am 7/6/98; am 6/19/00; am 11/18/12; am and comp 12/21/19; am and comp]
(Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-16 Inspections and tests. (a) The department shall inspect to insure compliance with chapter 397, HRS, any activity related to the

erection, construction, alteration, repair, or maintenance of facilities containing pressure retaining items. The department may authorize special inspectors [~~in the employ of~~] exclusively employed by insurance companies who shall inspect [~~boilers and pressure vessels~~] pressure retaining items insured by the insurance companies[~~.~~] and special inspectors exclusively employed by approved OUIOs who shall only inspect pressure retaining items owned and operated by the OUIO. All equipment required by this section to be inspected are exempt from the requirements of this chapter if under the jurisdiction of the United States government, or if serving only a private residence and not accessible to the public, except where the location could affect persons other than the owner and meet the requirements of section 12-220-2.1(c).

(b) All inspections and witnessing of tests for [~~pressure-retaining~~] pressure retaining items as required pursuant to this part, shall be made in conformance with the procedures set forth in the ASME BPVC, the NBIC, and this part. Where notations of discrepancies, recommendations, or requirements are made, these notations shall refer to the applicable rule of the ASME BPVC, the NBIC, and this part.

(c) Power boilers shall receive a permit following an annual permit renewal internal inspection upon approval by the chief boiler inspector. An external inspection shall be performed approximately six months after each internal inspection.

(d) Miniature electric boilers shall receive a permit renewal inspection biennially. An internal inspection may be performed by the inspector pursuant to NBIC, Part 2 requirements, when necessary.

(e) Heating boilers shall receive permit renewal inspections as follows:

(1) Steam or vapor boilers with a heating surface of twenty (20) or less square feet shall have an external inspection every two years. An internal inspection may be conducted pursuant to NBIC, Part 2 requirements, when necessary, and where the construction of the boiler permits;

(2) Steam or vapor boilers, with a heating surface greater than twenty (20) square feet and less than or equal to one hundred (100) square feet, shall be externally inspected every two years and internally inspected at least every four years;

(3) Steam or vapor boilers with any one of the following criteria: a manway, a Btu input greater than 400,000, or a heating surface greater than one hundred (100) square feet, shall receive a permit following an annual internal inspection upon approval by the chief boiler inspector. An external inspection shall be performed approximately six months after each internal inspection;

(4) Hot-water heating [~~and~~] boilers, hot-water supply boilers, and potable water heaters shall have an external inspection every two years, and where construction of the unit permits, an internal inspection may be conducted in lieu of the external inspection pursuant to NBIC, Part 2 requirements, when necessary;

(5) Pool heaters shall have an external inspection every two years; and

(6) All non-code, nonstandard, or State special boilers and water heaters installed or operated in schools shall be externally inspected every two years and shall comply with the installation requirements of section 12-220-2.1. These objects are designated as state specials and shall be issued a permit to operate. An inspection and permit to operate fee will be assessed for the inspection of these objects.

(f) All pressure vessels shall receive a permit renewal inspection every two years and as follows:

(1) Unfired jacketed steam kettles with a cooking capacity of forty (40) gallons or more, or steam chambers exceeding five (5) cubic feet in volume receiving steam from an external source, shall receive a permit inspection every two years;

(2) All non-code, nonstandard, or state special pressure vessels installed or operated in schools shall be externally inspected every two years and shall comply with the installation requirements of section 12-220-2.1. These objects will be designated as state specials and be issued a permit to operate upon approval by the chief boiler inspector. An inspection and permit to operate fee will be assessed for the inspection of these objects;

(3) An internal inspection may be performed pursuant to NBIC, Part 2 requirements, when necessary; and

(4) Pressure vessels used for the treatment of wood shall be scrubbed clean for close visual inspection every ten years.

(g) Boilers and pressure vessels that are under the supervision of an OUIO shall be inspected in accordance with the NBIC and this part. [~~Pressure vessels may be inspected with a different permit inspection frequency but not to exceed every four years upon approval by the chief boiler inspector.~~]

(h) Based upon documentation of actual service conditions by the owner or user of the operating equipment, the department may, at its discretion, permit variations in the inspection frequency requirement pursuant to section 12-220-33.1.

(i) Power boilers having continuous internal water treatment under the general supervision of a qualified engineer or chemist, having a minimum of five years' experience in the treatment of boiler water, at least one year of which shall have been on the boiler or boilers in that person's supervision, where the water treatment is for the purpose of controlling and limiting serious corrosion and other deteriorating factors, may, upon approval of the director, be given permit inspections at intervals of not more than three years, in which case external inspections shall be performed at approximately six month intervals between the internal inspections.

(1) The owner or user of a power boiler subject to this part shall keep an accurate record of the

samples of boiler water taken at regular intervals not greater than twenty-four (24) hours of operation. The owner or user shall also keep a record of the date and actual time that boilers were out of service and the reasons therefore. All records mentioned in this section are to be made available by the owner or user to the inspector for examination upon request;

(2) When a biennial internal inspection is desired by a power boiler owner or user subject to this section, a written application for consideration shall be made to the department. The application shall contain the following information:
   (A) Use of the boiler;
   (B) Boiler technical data, name of manufacturer, and all identifying numbers;
   (C) Name and pertinent qualifications of the qualified engineer or chemist in charge of water treatment;
   (D) The laboratory facilities used for testing and analyzing boiler water;
   (E) The boiler water analysis standards established and achieved over the preceding twelve (12) month period;
   (F) Method and frequency of sampling water;
   (G) Percentage of makeup water;
   (H) Record of boiler outages occurring since the last internal inspection; and
   (I) The biennial inspection report by a qualified boiler inspector relating to the acceptability of the boiler; and

(3) Upon approval of the application by the department, the expiration date of the current annual operating permit shall be extended for a period of one year. Subsequent permits shall be issued to expire annually and may be extended for not more than one year provided the boiler reports submitted to the department, at periods as shall be required, indicate that the approved

standards and codes are being maintained and if all other conditions are being met.

(j) The following shall apply to the notification of unsafe pressure retaining items:

(1) If [~~a special~~] an inspector, upon first inspection of a new risk, finds that a pressure retaining item, or any appurtenance thereof, is in a condition that [~~the insurance company would refuse insurance,~~] is unsafe, the company shall immediately notify the department; and

(2) If, upon inspection, [~~a special~~] an inspector finds a pressure retaining item to be unsafe, the [~~special~~] inspector shall promptly notify the owner or user, stating what repairs or other corrective measures are required to bring the object into compliance with these rules. Unless the owner or user makes repairs or adopts other corrective measures promptly, the [~~special~~] inspector shall immediately notify the department. Unless timely corrections have been made, no further operation of the pressure retaining item shall be permitted. If an operating permit for the object is required and is in force, it shall be suspended by the [~~special~~] inspector if timely corrections have not been made. When re-inspection establishes that the necessary repairs have been made or corrective actions have been taken and that the pressure retaining item is safe to operate, the department shall issue an operating permit.

(k) When defective conditions are disclosed during the inspection, or there is evidence of a leak or crack, adequate access shall be provided to permit the inspector to satisfactorily determine the safety of the pressure retaining item.

(l) Permit inspections, as required in section 12-220-15, shall be carried out prior to the expiration date of the certificate at a time mutually agreeable to the inspector and owner or user. External inspections may be performed by the inspector

during reasonable hours and without prior notification. When, because of an external inspection or determination by other objective means, it is the inspector's opinion that continued operation of the pressure retaining item constitutes a danger to personnel or property, the inspector may request an internal inspection or an appropriate pressure test, or both, to evaluate conditions. In these instances, the owner or user shall prepare the pressure retaining item for inspections or tests as the inspector requires.

(m) The following requirements shall apply to the submission of inspection reports:

(1) Inspectors shall submit to the department an inspection report on Form NB-5 of the NBIC, or similar forms approved by the department, for each pressure retaining item subject to chapter 397, HRS. Complete data shall be submitted for each nonstandard pressure retaining item;

(2) Subsequent inspections by qualified inspectors of both standard and nonstandard pressure retaining items shall be reported on Forms NB-6 and NB-7 of the NBIC, or similar forms approved by the department;

(3) Inspection reports following the requirements of paragraphs (1) and (2) shall be submitted within thirty (30) days from the date of the inspection; and

(4) Owner-user inspection organizations shall file reports pursuant to section 12-220-19.

(n) Notification by insurance companies. All insurance companies shall notify the department within thirty (30) days on all pressure retaining items for which insurance is written, canceled, or not renewed.

(o) If during a routine inspection by [~~a special~~] an inspector, a pressure retaining item is found to have discrepancies, the length of time for temporary use of the item, and the correction of the discrepancies will be at the discretion of the [~~special~~] inspector, but no more than ninety (90) days. A follow up inspection shall be made by the [~~special~~] inspector in a timely manner and the department

notified. The nonconforming safety devices shall be immediately replaced or the operation of the pressure retaining item shall be suspended. Follow up inspections not performed by [~~the~~] special [~~inspector~~] inspectors within the time prescribed by the department may be conducted by the department. The authorized inspection agency shall be invoiced at [~~$125~~] $150 per hour with a minimum of two hours charged. [Eff 12/6/82; am 12/8/86; am, ren §12-220-16, and comp 12/6/90; am 7/6/98; am 6/19/00; am 11/18/12; am and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-17 Investigations. The department [~~shall~~] may investigate, in accordance with section 12-220-27, accidents involving pressure retaining items subject to this chapter and may issue orders and recommendations with respect to the elimination and control of the cause factors. [Eff 7/6/98; am and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §§397-4, 397-6)

§12-220-18 Inspectors. (a) The following shall apply to inspectors:

(1) The director shall appoint a chief boiler inspector who has had at the time of appointment not less than ten years' experience in the construction, installation, inspection, operation, maintenance or repair of pressure retaining items as a mechanical engineer, steam operating engineer, boilermaker, or boiler inspector; [~~and~~]

(2) The chief boiler inspector shall enforce the requirements of this part, take action necessary for the enforcement of the laws of the State governing the use of pressure retaining items, and keep a complete record of the type, dimensions, maximum allowable

working pressure, age, condition, location, and date of last internal inspection of all pressure retaining items[~~.~~];

(3) Required inspections of pressure retaining items shall be performed by inspectors as defined in section 12-220-1;

(4) An application to take the State of Hawaii certificate of competency examination shall be filed at least sixty (60) days in advance and on the form provided by the department and must be accompanied by the remittance of the fee as per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter;

(5) The certificate of competency shall be issued after the inspector has appeared before the director or the director's authorized agent, such as the chief boiler inspector;

(6) The certificate of competency, unless suspended, revoked, or canceled, shall expire one year from the date of issue or renewal;

(7) An insurance company employing special inspectors shall notify the department in writing when the employment of a special inspector is terminated; and

(8) Upon approval of an applicant's request, a State of Hawaii examination for certificates of competency to inspect pressure retaining items shall be administered by the department on the first Wednesday of March, June, September, and December of each year.

(A) Applications for a State of Hawaii examination for a certificate of competency shall be in writing upon a form provided by the department. If the applicant's credentials and work experience are in accordance with NB-263, RCI-1, and meet with the approval of the department, the applicant shall be given

a written examination dealing with the construction, installation, operation, maintenance, or repair of pressure retaining items, and the requirements of this part. If the applicant is successful in completing the test and meets all the requirements, a certificate of competency shall be issued by the department. An applicant who fails to pass the examination shall be permitted to take another written examination after the expiration of ninety days. The fee remitted with the application shall be good for six months during which a re-examination must be taken; and

(B) Inspectors employed by the department shall pass the National Board examination and be issued a certificate of competency from the department during the probationary employment period. A commission from the National Board shall then be obtained by the department to enable the employee to become a qualified boiler inspector.

(b) Commissions to inspect shall be always carried by inspectors while engaged in the performance of inspectional duties. Certificates of competency are non-transferable.

(c) The certificate of competency and commissions issued to an inspector may be suspended by the director or chief boiler inspector for cause and may be revoked after due investigation and recommendation by the department upon ten days' notice to the inspector and to the inspector's employer. Cause for suspension or revocation shall include, but not be limited to, incompetency, untrustworthiness, wilful falsification of any matter or statement contained in the inspector's application, or in the report of any inspections, or any other sufficient reason in the discretion of the director. Prior to revocation, the holder of the certificate of competency or commission shall be entitled to a hearing before the director or

the director's authorized agent. A person whose certificate of competency has been suspended or revoked, except for untrustworthiness, shall be entitled to apply to the department for reinstatement, or in the case of revocation, for a new examination and certificate of competency ninety days (90) after the revocation.

(d) No person shall be authorized to act for the State as an inspector who is directly interested in the manufacture, sale, repair, or alteration of any equipment or any appurtenance used on any equipment which is inspected pursuant to chapter 397, HRS. [Eff 7/6/98; am 11/18/12; am and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §§397-4, 397-6)

§12-220-19 Owner-user inspection organization. (a) Any person[,~~firm, partnership, or corporation~~] or owner operating pressure retaining items in Hawaii may seek approval and registration as an OUIO by submitting an application with the department[~~.~~] prior to seeking accreditation with the National Board.

(b) The application and registration shall show the name of the OUIO and its principal address in Hawaii as well as the name and address of the person charged with the implementation of the requirements of the established inspection program. Changes in the organization's inspection program, including its organizational chart and supervisory personnel, shall be reported to the department within thirty days after any change.

(c) The applicant sha11 set forth in writing the program, procedures, and organizational chart in a manner prescribed by the department and shall meet the requirements of NB-381. The complete application shall be submitted to the department for approval prior to implementation.

(d) Each OUIO shall:

(1) Conduct inspections of pressure retaining items not exempt from chapter 397, HRS,

utilizing only qualified boiler inspectors, pursuant to section 12-220-18 and as defined in section 12-220-1;

(2) Execute and deliver to the department the inspection reports on pressure retaining items inspected that shall include appropriate requirements or recommendations based on the inspection. Reports shall be submitted as soon as possible but no later than thirty calendar days after the completion of the inspection;

(3) Promptly notify the department of any pressure retaining item that does not meet the requirements for safety;

(4) Maintain inspection records that shall include:

(A) A list of each boiler, pressure vessel, or pressure systems subject to chapter 397, HRS, complete with National Board number, serial number, and descriptions necessary for identification;

(B) A true record or copy of the latest report of each inspection that shall be signed by the inspector who made the inspection; and

(C) The approximate date of the next inspection pursuant to NBIC and the jurisdiction;

(5) Employ inspectors who meet the requirements of NB-263, who hold a valid National Board Inservice Commission (IS), and an "R" endorsement if the scope of inspections include repair or alteration inspections, and meets the requirements of section 12-220-18; and

(6) Select and designate a technical supervisor meeting the requirements of paragraph (5), and who shall have passed the examination developed and administered by the National Board, and received an "O" endorsement from the National Board.

(e) Inspection records shall be readily available for annual review and audit by the

department during business hours. [Eff 12/6/82; am 12/8/86; am, ren §12-220-19, and comp 12/6/90; am 7/6/98; am 6/29/00; am and comp 12/21/19; am and comp] (Auth: HRS §§397-4, 397-5, 397-6) (Imp: HRS §§397-4, 397-5, 397-6)

§12-220-20 Fees. (a) The following shall apply to fees:

(1) The department shall charge and collect from the owner, user, lessee, contractor, or insurance company a fee, including a permit processing fee, and an inspection report fee, per the schedule in Exhibit B, titled, "Internal & External Inspection Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter, for each inspection made by an inspector during regular working hours. The department shall charge and collect a fee for each duplicate permit to operate;

(2) For all other inspections and services, the fee shall be [~~$125~~] $150 per hour but not less than [~~$250~~] $300 per occurrence during regular working hours and [~~$175~~] $225 per hour but not less than [~~$350~~] $450 per occurrence when performed outside regular working hours;

(3) Scheduled inspections delayed or canceled [~~and too late to prevent the arrival of the inspector on the premises,~~] by the requester shall be charged in accordance with the scheduled fee for the type of inspection. If the notice of cancellation or delay of a scheduled inspection is given forty-eight (48) hours beforehand, excluding weekends and state holidays, then no fee will be charged;

(4) A delayed inspection includes situations where the pressure retaining item is not ready for the inspection or the requester is not ready to conduct the tests within one hour of the scheduled date and time;

[~~(4)~~](5) The charge for a rescheduled inspection or a call back inspection to allow a pressure retaining item to operate shall be at the scheduled fee for the type of inspection plus the expenses incurred, including, but not limited to, the inspector's time, mileage, and travel expenses;

[~~(5)~~](6) When an unscheduled inspection request is made for the benefit of an owner, user, contractor, or vendor, the sum of expenses incurred, including the hourly fee if applicable, shall be charged in addition to the inspection fee;

[~~(6)~~](7) Whenever the beneficiary of an inspection fails to pay the fees required under this section within sixty days (60) after notification, the pressure retaining item shall be tagged out of service and permit revoked. In addition to the fees required, the department shall charge the beneficiary a penalty equal to fifty per cent of the fee. For this section, the date of invoice shall be considered the date of notification. Upon payment of fees, the operating permit shall be reinstated and issued; and

[~~(7)~~](8) Departmental reports of inspections for which expenses must be added to the basic fee shall be accompanied by an itemized account of the inspections made and the expenses incurred.

(b) Departmental installation, repair, routine repair, and alteration permit fees.

(1) The department shall, before issuance of a permit to install, repair, routine repair, alter, construct, or relocate, charge and collect a fee for each object per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter;

(2) For each instance requiring an installation permit fee, the department shall provide:

(A) A plan review, an inspection and witnessing of the acceptance test, and one additional follow up inspection at the convenience of the department. The department shall charge for additional inspections for final acceptance and at the expense of the requesting party. Additional inspections may be at the convenience of the requesting party if all the expenses incurred are paid and fifteen days' (15) notice is given to the department;

(B) The processing and issuance of the temporary permit to operate; and

(C) The processing and issuance of the final permit; and

(3) Failure to obtain a permit prior to commencement of work on the installation, routine repair, or alteration of a pressure retaining item will double the permit fee in addition to penalties.

(c) The department shall charge for boiler inspector examination and license fees, per the schedule in Exhibit A, titled, "Installation, Repair or Alteration Permit Fees, and Licensure, Examination, and Registration Fees", dated [~~September 1, 2019,~~] October 1, 2023, which is made part of this chapter and located at the end of this chapter.

(d) The department shall charge for audits of inspections conducted by OIOUs and insurance agencies. [Eff 7/6/98; am 11/18/12; am and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-5)

§12-220-21 Rights and enforcement. (a) Rights.

(1) Authorized representatives of the director may enter without delay during regular

working hours and at other reasonable times, any place, establishment, or premises where pressure retaining items are located that are subject to chapter 397, HRS;

(2) The department may question any employer, owner, operator, agent, or employee in investigation, enforcement, and inspection activities covered by this chapter; and

(3) Any employee of the State acting within the scope of the employee's office, employment, or authority under chapter 397, HRS, shall not be liable for or made a party to any civil action arising out of administration and enforcement of chapter 397, HRS.

(b) Enforcement.

(1) Whenever an authorized representative of the director is denied the right of entry to a place to inspect any pressure retaining item subject to inspection by this chapter, the department may apply to the circuit court where the place exists for a search warrant providing on its face that the wilful interference with its lawful execution may be punished as a contempt of court;

(2) Whenever the department finds that the construction of, or the operation of any pressure retaining item subject to inspection by this chapter is not safe, or that any practice, means, method, operation, or process employed or used is unsafe; or is not in conformance with the standards and codes adopted pursuant to chapter 91, HRS, the department shall issue an order to render the construction or operation safe in conformance with chapter 397, HRS. The department shall deliver the order to the contractor, owner, or user in writing and may be delivered by mail, electronic mail, or in person. The department may in the order

direct that, in a manner and within a time specified, additions, repairs, improvements, or changes and safety devices and safeguards be furnished, provided, and used as are reasonably required to ensure compliance with the purposes and provisions of chapter 397, HRS. The owner, user, or contractor shall obey and observe all orders issued by the department or be subject to civil penalties pursuant to section 12-220-22;

(3) Whenever, in the opinion of the department, the condition of, or the operation of a pressure retaining item subject to inspection by chapter 397, HRS, or any practice, means, method, operation, or process employed is unsafe, or is not properly guarded, or is dangerously placed, use of the pressure retaining item may be prohibited by the department. An order to that effect shall be posted prominently on the equipment, or near the place or condition referred to in the order. The order shall be removed when a determination has been made by an authorized representative of the department that the pressure retaining item is safe and the required safeguard or safety devices are provided;

(4) Pursuant to section 397-4(d)(4), HRS, the department may apply for a restraining order from a circuit court to effect enforcement;

(5) Pursuant to section 397-4(d)(5), HRS, the director, or an authorized representative, shall have the same powers possessed by the court respecting administering of oaths, compelling attendance of witnesses, producing documentary evidence, and examining witnesses or causing them to be examined, and may take depositions and certify to official acts;

(6) Where a condition or practice involving any pressure retaining item subject to inspection by chapter 397, HRS, could reasonably be expected to cause death or serious physical harm, the department shall have the right, independent of any other enforcement powers under this chapter, to:

(A) Immediately take steps to obtain abatement by informing the owners, users, contractors, and all persons in harm's way of the hazard by meeting, posted notice, or otherwise;

(B) Take steps to immediately obtain abatement through direct control or elimination of the hazard if, after reasonable search, the user, owner, contractor, or their representative is not available;

(C) Take steps to obtain immediate abatement when the nature and imminence of the danger or hazard does not permit a search for the owner, user, or contractor; and

(D) Where appropriate, initiate necessary legal proceedings to require abatement by the owner, user, or contractor; and

(7) The department may prosecute, defend, and maintain actions in the name of the department for the enforcement of the provisions of chapter 397, HRS, including the enforcement of any order issued by it, the appeal of an administrative or court decision, and other actions necessary to enforce chapter 397, HRS. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §§397-4, 397-6, 397-8)

§12-220-22 Violations and penalties. (a) The director may assess all civil penalties provided in

this section, giving due respect to the gravity of the violation, the good faith of the owner, user, consultant, contractor, or vendor, and the history of previous violations.

(b) Violations.

(1) Any owner, user, consultant, contractor, vendor, or person who violates chapter 397, HRS, or any safety standards, rules, and codes adopted pursuant to chapter 91, HRS; or who violates or fails to comply with any order made pursuant to chapter 397, HRS, or who defaces, displaces, destroys, damages, or removes without the authority of the department any safety device, safeguard, notice, order, or warning required by chapter 397, HRS, standards, or codes, shall be assessed a civil penalty of not more than $10,000 for each violation; and

(2) Each day a violation continues shall constitute a separate violation except during an abatement period.

(c) Discrepancies and penalties.

(1) Any conditions found in nonconformance with applicable standards, rules, or codes, adopted pursuant to chapter 91, HRS, shall be regarded as discrepancies and the department shall notify the owner, user, consultant, contractor, vendor, or person by letter, or written order to correct that shall be mailed, or sent by electronic service. All discrepancies shall be satisfactorily resolved as soon as possible. When, in the opinion of the department, a discrepancy constitutes a potentially serious or imminent hazard, it may prohibit the use of the equipment until the condition is abated. Failure to abate unsafe conditions, or failure to correct discrepancies within the time prescribed, shall be a violation subject to the civil penalties prescribed in this section; and

(2) Assessing penalties.

(A) Consideration shall be given to the gravity of the violation. For a

violation that could not or probably would not result in serious harm to life or property, the penalty may be reduced by forty per cent;

(B) Consideration shall be given to the good faith of the owner, user, consultant, contractor, or vendor. For immediate correction or for attempts to make corrections or abate hazards that have been thwarted by conditions beyond the control of the owner, user, consultant, contractor, or vendor, the penalty may be reduced by forty per cent; and

(C) Consideration shall be given for the history of previous violations. For few or no previous violations by the owner, user, consultant, contractor, or vendor, the penalty may be reduced by twenty per cent.

(d) Anyone who knowingly makes a false statement on any document required by chapter 397, HRS, shall upon conviction, be punished by a fine of no more than $10,000 or by imprisonment for not more than six months, or by both. Any evidence suggesting that a false statement may have been made shall be immediately referred to the director, who shall consult with the attorney general for purposes of initiating appropriate action. [Eff 7/6/98; am 11/18/12; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-8)

§12-220-23 Review and appeal. (a) Any order of the director shall be final and conclusive against the owner, user, vendor, consultant, contractor, or person unless a written notice of contest of the order is filed with the director specifying what is being contested within twenty (20) days after receipt of the order.

(b) The owner, user, vendor, consultant, or contractor may petition the director for modification of the abatement requirements in an

order, provided the petition is filed no later than the close of the next business day following the date on which abatement is required. Under exceptional circumstances and for good cause shown, the petition may be filed later. The director shall issue an order either affirming or modifying the abatement requirement.

(c) The director shall advise the appeals board upon receipt of notice of contest.

(d) The appeals board shall afford an opportunity for hearing on any notice of contest pursuant to section 397-9, HRS. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-9)

§12-220-24 Judicial review. Judicial review of a decision and order of the appeals board may be obtained in the manner provided for in chapter 91, HRS, by instituting proceedings in the circuit court of the circuit in which the pressure retaining item is located. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-10)

§12-220-25 Trade secrets. Information obtained by the department containing or revealing a trade secret shall be held confidential and access shall be limited to authorized representatives of the director pursuant to chapter 397, HRS, and when relevant in any proceedings pursuant to chapter 397, HRS. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-11)

§12-220-26 Evidence. No record or determination of any administrative proceedings pursuant to chapter 397, HRS, or any statement or

report of any kind obtained or received in connection with the administration or enforcement of chapter 397, HRS, shall be admitted or used, whether as evidence or a discovery, in any civil action growing out of any matter mentioned in the record, determination, statement, or report other than an action for enforcement or review under chapter 397, HRS. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-12)

§12-220-27 Reporting of accidents. (a) Whenever an accident, as defined by section 12-220-1, occurs to a pressure retaining item, the owner, user, or maintenance company shall promptly notify the division by submitting a detailed accident report.

(b) Whenever an accident occurs that results in the loss of life the owner, user, or maintenance company shall promptly notify the division by telephone at (808) 586-9141 or electronic mail at dlir.hiosh.boiler@hawaii.gov within eight (8) hours after the event. Whenever an accident occurs involving inpatient hospitalization, the owner, user or maintenance company shall notify the division within twenty-four (24) hours. In either case, the pressure retaining item, or any of its parts, shall not be removed or disturbed before permission has been given by the department, except for the purpose of saving human life and limited consequential damage.

(c) Additional reports, in writing or otherwise, may be required by the director. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-28 Suspending operation; condemned pressure retaining items. (a) If, upon inspection,

a pressure retaining item is declared unfit for further operation by an inspector, the inspector shall notify the department and the permit to operate shall be suspended by the department. The pressure retaining item shall be stamped on either side of the state number with the letters XXX so that the number would read as follows: XXX-HAW-###-##-XXX. The stamping with the Xs shall designate a condemned item.

(b) Any person, firm, partnership, or corporation operating, using, or selling any unsafe pressure retaining item, and notwithstanding section 12-220-22, shall be subject to a penalty of up to $10,000 per day of operating, use, or offering for sale any unsafe pressure retaining item. [Eff 7/6/98; am and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-29 Repealed. [R 12/21/19]

§12-220-29.1 Reinstallation of pressure retaining items. Before an owner or user of a pressure retaining item located in Hawaii relocates the object outside of the jurisdiction for temporary use or repair, an application shall be made by the owner or user to the department for permission to reinstall the pressure retaining item back in the jurisdiction pursuant to section 12-220-5. When a nonstandard pressure retaining item, as defined in section 12-220-2.1(c), is removed, it shall not be reinstalled within Hawaii. [Eff 7/6/98; §12-220-30; am, ren §12-220-29.1, and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-30 Renumbered. [Eff 12/21/19]

§12-220-30.1 Application of [~~State~~] state serial numbers. (a) Upon completion of the installation of a pressure retaining item, or at the time of the initial permit inspection of an existing installation, each pressure retaining item shall be stamped or marked by the inspector employed by the department with a state serial number, consisting of letters and figures to be not less than 5/16 inch in height and arranged:

For power boilers	HAW-####-YEAR
For heating boilers	HHB-####-YEAR
For pressure vessels	HPV-####-YEAR

Heating boilers assigned state serial numbers prior to January 1984 had the prefix HAW NO. 0000-YEAR. In each case, the year shall be a part of the number.

(b) All pressure retaining items constructed of cast iron, or of material of a thickness that cannot be stamped in accordance with the ASME BPVC, shall have a securely attached corrosion resistant label plate containing the required manufacturer's stamping, or directly marked by other means on the pressure retaining item. The [~~State~~] state serial number shall be stamped or marked by other means on the label plate. [Eff 7/6/98;1 §12-220-31; am, ren §12-220-30.1, and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-31 Renumbered. [Eff 12/21/19]

§12-220-31.1 Notification of transfer and location. The contractor, erector, seller, vendor, or any person responsible for the transfer of ownership, shall notify the department in writing within thirty (30) calendar days giving the address, name, and phone number of the purchaser of any pressure retaining item except those exempted by section 12-220-15.

(1) The owner or user of any existing pressure retaining item operated in the State, except

those exempted by section 12-220-2.1(c), and those for which an operating permit has been issued, shall report the location thereof to the department[~~:~~].

(2) An owner or user planning to install any pressure retaining item except those exempted by section 12-220-2.1(c), shall notify the department in writing or by electronic mail at dlir.hiosh.boiler@hawaii.gov of the proposed location of the installation stating whether the unit is new, reinstalled, or secondhand. If it is a reinstalled or a secondhand pressure retaining item, the owner or user shall, in addition to the above information, give the Hawaii number or otherwise identify the pressure retaining item. The owner or user of a portable pressure retaining item shall not be required to report each change in location unless the change is from one island to another.

(3) When a pressure retaining item, subject to this chapter, is removed from service, the owner shall notify the department in writing or by electronic mail at dlir.hiosh.boiler@hawaii.gov. The notification shall state the disposition made or planned for the pressure retaining item. The notification shall occur prior to the relocation or removal from service of the pressure retaining item. [Eff 7/6/98; §12-220-32; am, ren §12-220-31.1, and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-32 Renumbered. [Eff 12/21/19]

§12-220-32.1 Records. The boiler inspection branch shall preserve and maintain for at least six years (6) records of reports of its inspections,

witnessing of tests, accident investigations, correspondence, prints, and memoranda for all objects inspected pursuant to chapter 397, HRS. [Eff 7/6/98; §12-220-33; am, ren §12-220-32.1, and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-33 Renumbered. [Eff 12/21/19]

§12-220-33.1 Variances. (a) In cases of practical difficulties, undue hardships, or new developments, an owner, user, contractor, or vendor may apply for a variance from any safety standard under this part. The application must be in writing and may be hand delivered or mailed to the director, or sent by electronic mail to dlir.hiosh.boiler@hawaii.gov, clearly stating the standard from which a variance is sought, the conditions, means, practices, methods, operations, or processes proposed together with drawings, specifications, and other supporting data. The director may issue an order for variance if what is proposed will provide a substantially equivalent level of safety to that provided by the standard.

(b) All variances granted pursuant to this chapter shall have only a future effect. The director may decline to consider an application for variance on a subject or issue for which a citation has been issued to the owner or user and a proceeding on the proposed citation, or period of abatement, is pending.

(c) Before granting the variance, the director shall post a notice on the division's homepage notifying all potentially affected parties of the director's intent to grant the variance. The notice shall provide a period of thirty (30) calendar days to object to the granting of the variance, after which time the variance shall become final if no objections are filed and no hearing is requested.

(d) Any party objecting to the granting of the variance must notify the director in writing within

thirty (30) days of the online posting, stating the reasons why the variance should not be granted and the resultant specific impact on safety. The objecting party's reasons for objection may also be based on grounds other than impact on public safety, including the feasibility of compliance or lack of undue hardship to the petitioner.

(e) The hearing requested by the objecting party shall be held before the director or the director's authorized agent no later than forty-five (45) days after the thirty-day (30) period online posting of the public notice. It shall be held as follows:

(1) The objecting party or parties and the variance applicant shall be provided notice of the date, time, and place of the hearing at least fourteen (14) calendar days before the scheduled hearing;

(2) Each party shall be prepared to provide evidence supporting the party's case, including a brief oral statement summarizing the party's evidence;

(3) The director shall provide a written order to all parties;

(4) If the director determines that the evidence does not support denial of the variance request, no further notice is required; and

(5) If the director determines that the evidence supports a denial of the variance request, the director shall post notice on the division's homepage notifying all potentially affected parties of the director's determination.

(f) Every final action granting a variance shall be published by online posting on the division's webpage. The online notice shall specify the alternative to the standard involved in the variance granted by the director.

(g) If a variance application filed pursuant to subsection (a) does not include all the relevant information required, the director may deny the application. The director's order of the denial of an application for nonconformity shall be given to the applicant within thirty (30) calendar days. A notice of denial shall include a brief statement of the grounds

for the denial. A denial of an application shall be without prejudice to the filing of another application. If a variance is not acted upon within ninety (90) calendar days, it shall be deemed granted.

(h) Notice of hearing.

(1) Upon request for a hearing pursuant to this chapter, the director shall serve notice of hearing within thirty (30) days and not more than sixty (60) days after the request for hearing;

(2) A notice of hearing shall include:

(A) The time, place and nature of the hearing;

(B) The legal authority for the hearing;

(C) A specification of the issues of fact and law; and

(D) A designation of a hearing officer appointed by the director; and

(3) A copy of the notice of hearing shall be transmitted to the hearing officer together with the original application and any request for a hearing.

(i) The director shall issue a determination to all affected parties within thirty (30) calendar days after the conclusion of the hearing. (Eff 12/6/82; am 12/8/86; am, ren 12-220-11, and comp 12/6/90; am 7/6/98; am 6/19/00; §12-220-34; am, ren 12-220-33.1, and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-220-34 Renumbered. [Eff 12/21/19]"

EXHIBIT A
INSTALLATION, REPAIR, OR ALTERATION FEES, AND LICENSURE, EXAMINATION, AND REGISTRATION FEES

October 1, 2023

Installation Permits per object:

Power boiler with:	
500 square feet or less of heating surface	$450
500 to 3,000 square feet of heating surface	$650
3,001 square feet or more of heating surface	$1,650
Miniature electric boiler	$300
Heating Boiler	$300
Non-code or state special (schools)	$100
Pressure vessel	$225
Sterilizers and steam kettles (Fired and electrically heated)	$225
BEP and NBEP	$330

Repair and Alteration Permits

Routine repair application	$250
Repair application	$350
Alteration application	$550
NBEP repair or alteration	$350

License, Examination and Registration

Certificate of competency examination	$400
Hawaii Commission, initial or renewal	$125
National Board Inspector Commission examination	$550
Quality control systems review for National Board or ASME certificate of authorization[1]	$2,200
Quality control systems review for NBEP Certificate of Authorization[1]	$2,200
Initial applications for OUIO certification	$1,100
Re-stamp or replace nameplate application	$350

[1] ***When administered by the department***

EXHIBIT B
INTERNAL & EXTERNAL INSPECTION FEES

October 1, 2023

Power boilers[1]	
249 square feet or less (internal)	$300
249 square feet or less (external)	$250
>249 to 500 square feet (internal)	$350
>249 to 500 square feet (external)	$250
>500 to 2,999 square feet (internal)	$500
>500 to 2,999 square feet (external)	$350
>2,999 to 10,000 square feet (internal)	$550
>2,999 to 10,000 square feet (external)	$350
>10,000 square feet(internal)	$900
>10,000 square feet (external)	$600
Heating boilers[1]	
Hot-water heating or supply, potable water heater	$200
20 square feet or less low pressure steam	$200
>20 to 100 square feet low pressure steam (internal)	$300
>20 to 100 square feet low pressure steam (external)	$200
>100 to 500 square feet low pressure steam (internal)	$350
>100 to 500 square feet low pressure Steam (external)	$250
>500 square feet low pressure steam (internal)	$540
>500 square feet low pressure steam (external)	$350
Pressure vessels	
Permit renewal	$100
Internal inspection	$200
Inspection reports	
Third-party inspection report review & processing	$35
Permit to operate	
Permit to operate or certificate	$55
State specials	$55
Permit reprint	$35
Miscellaneous	
Ultrasonic testing per hour	$150
Hydrostatic test per hour	$150
Jurisdiction audit fee per hour	$150

The fee for any inspection or service not covered above shall be $150 per hour but not less than $300 during regular working hours and $225 per hour but not less than $450 when outside regular working hours by request.

[1] ***When numbers are specified it is of square feet of heating surface.***

2. Chapter 12-222.1, Hawaii Administrative Rules, entitled "Power Boilers", is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION

PART 10

BOILER AND PRESSURE VESSELS

CHAPTER 222.1

POWER BOILERS

Historical Note: This chapter is based substantially upon chapter 222. [Eff 7/11/74; am 12/30/76; am 8/22/78; am 8/1/78; am 12/6/82; R 12/21/19]

§12-222.1-1 Scope. Unless exempt under section 12-220-2.1(c), the requirements in this section shall apply to power boilers and high-temperature water boilers, but not limited to the following:

(1) Boilers in which steam or other vapor is generated at a pressure of more than fifteen (15) psig for use external to itself;

(2) High-temperature water boilers intended for operation at pressures exceeding one hundred sixty (160) psig or temperatures exceeding two hundred fifty (250) degrees Fahrenheit; and

(3) Unfired steam boilers designed in accordance with ASME BPVC Section I.

[Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-2 General requirements for power boilers. (a) The following shall apply to all power boilers:

(1) All power boilers in operation in this jurisdiction shall have a valid and current operating permit issued for a specific location by the department;

(2) Changes in location or ownership shall require notification of the department and may require re-inspection;

(3) Power boilers shall bear the ASME BPVC symbol stamp "S", "E", "M", or ASME certification mark with "S", "E", or "M" designator and the National Board registration number;

(4) ASME and NB stamping shall be legible and not be concealed by insulation or paint; and

(5) Upon completion of the installation of a new power boiler, each power boiler shall be marked by an inspector employed by the department with a state serial number, consisting of letters and figures to be not less than five sixteenths (5/16) of an inch in height and arranged as HAW####-Year.

(b) The age limit of boilers of standard construction installed prior to the date these rules become effective shall be dependent on thorough internal and external inspection, and where required by the inspector, a pressure test not exceeding one and one-half times (1.5) the maximum allowable working pressure. If the boiler, under these test conditions, exhibits no distress or leakage, it may be continued in operation at the working pressure determined by the applicable provisions of the edition of the ASME BPVC under which they were constructed and stamped.

(c) The age limit of any boiler of nonstandard construction without a lap-riveted longitudinal joint, installed prior to the date these rules become effective, shall be thirty (30) years, unless the department determines it may continue in operation at a pressure determined by the department as long as the following apply:

(1) The boiler passes a thorough internal and external inspection; and

(2) If required by an inspector, it passes a pressure test not exceeding one and one-half (1.5) times the maximum allowable working pressure, held for a period of at least thirty (30) minutes during which no distress or leakage develops.

(d) The age limit of any existing nonstandard boiler having lap-riveted longitudinal joints and operated at a pressure in excess of fifty (50) psig shall be twenty (20) years. This type of boiler, when removed from an existing setting, shall not be reinstalled and used at a pressure in excess of fifteen (15) psig. A reasonable time for replacement, not to exceed one (1) year, may be given at the discretion of the department. Lap seam riveted boilers are not allowed in this jurisdiction.

(e) Power boilers designed and stamped in accordance with ASME BPVC Section I, if trimmed for use as low pressure steam boilers, shall be inspected internally and externally on a power boiler frequency, if any of the following is exceeded:

(1) Heating surface greater than 100 square feet;

(2) Heat input greater than 400,000 Btu/hr; or

(3) Power boilers with manways.

(f) The following shall be considered new boiler installations:

(1) Replacement of an existing power boiler;

(2) Replacement of boilers at an existing location with a used or second-hand boiler; and

(3) Used or second-hand power boilers when installed in this jurisdiction, shall be equipped with fittings and appurtenances that comply with new installations.

(g) Replacement or repairs to boiler fittings, appurtenances or appliances, controls, and safety devices, shall comply with the applicable ASME BPVC and National Board Inspection Codes.

(h) Weld repairs, alterations, and inspection records shall be submitted with the installation application.

(i) All boiler piping shall be designed and installed in accordance with ASME BPVC Section I and ASME B31.1 for used or second-hand boilers. The use of galvanized piping is prohibited for power boiler pressure piping. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-3 Responsibilities of owners and users. (a) The following are requirements of owners and users:

(1) The owner or user of the power boiler is responsible for ensuring that all equipment meets all the requirements of the [~~jurisdiction~~] department at the point of installation, including licensing, registration, and certification of those performing installations; provided that power boilers and their associated piping shall not be operated until the required documentation has been provided by the installer to the owner and the department;

(2) Owners or users shall ensure operating permit renewal inspections are completed prior to the permit expiration date;

(3) Owners or users shall schedule boiler permit renewal internal inspections. Permit renewal inspections shall include boiler shutdown, dismantling, an internal inspection by an inspector, testing of controls and safety devices, and any additional inspection requirements at the discretion of the inspector;

(4) Operation of power boilers with expired operating permits is not allowed and may be subject to citation with penalties of up to $10,000 per day pursuant to section 12-220-22;

(5) When a boiler task is required, it is the owner or the owner's designee that is expected to perform the task, however, the owner retains responsibility for compliance; and

(6) Owners or users are responsible to ensure compliance with the preventive maintenance requirements as specified in 12-222.1-14.

(b) Permit extensions. The following shall apply to permit extensions:

(1) Requests for the extension of operating permits may be considered for valid reasons

by submitting a written request to the chief boiler inspector; and

(2) The unavailability of special inspectors to conduct inspections is not a valid reason for requesting permit extensions as deputy boiler inspectors may perform the inspections in the absence of special inspectors; [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-4 Inspections. (a) Initial power boiler acceptance inspections shall be conducted and witnessed by an inspector employed by the department. The initial inspection shall include internal inspection, post installation pressure test [~~in accordance with the original code of construction~~], and operational testing of controls and safety devices by the installer, contractor, or owner. The tests shall conform to the procedures set forth in the ASME BPVC, NBIC, and this section[~~.~~], as applicable.

(b) All power boilers require annual inspection, including an internal inspection, and if approved by the department, the owner or user shall receive an operating permit. Approximately six (6) months after an initial or annual inspection, power boilers shall be externally inspected and operationally tested. The owner or user or designee shall perform the operational testing with an inspector witnessing the testing.

(c) The owner or user or designated agent shall prepare each boiler for internal inspection prior to the expiration date of the operating permit and shall apply a hydrostatic or pressure test, whenever necessary, at a time mutually agreeable to the inspector and owner or user. The owner or user of a boiler, or designated agent, shall prepare the boiler [~~or pressure vessel~~] for internal inspection to include, but not limited to the following, at the discretion of the inspector:

(1) Drawing off the water and thoroughly washing the boiler;
(2) Removing plates for a manhole or handhole, washout plugs, and inspection plugs in the connections of the water column, and in internally fired boilers all grates;
(3) Ensuring the furnace and combustion chambers are thoroughly cooled and cleaned;
(4) Removing brickwork or installation as required by the inspector to determine the condition of the boiler, headers, furnace, supports, and other parts;
(5) Testing the pressure gage at the discretion of the inspector;
(6) Preventing any leakage of steam or hot water into the boiler by disconnecting the pipe or valve at the most convenient point, or by any method approved by the inspector;
(7) Closing, tagging, and padlocking the non-return valve, steam stop valves, blowoff valves, and feed valves before opening the cover for a manhole or handhole and entering any parts of the boiler or pressure vessel that connect to a common header with other boilers. In addition, opening the drain valves or cocks located between valves, disconnecting blowoff lines where practical between pressure parts and valves, and opening all drains and vent lines; and
(8) Any additional requirements at the discretion of the inspector.

(d) The following shall apply to these specific types of boilers [~~or pressure vessels~~]:
(1) Miniature boilers shall be externally or internally inspected and operationally tested biannually; and
(2) Miniature and electric steam boilers providing steam for sterilizing chambers shall be inspected and permitted separately from the steam chamber.

(e) Additional inspection requirements:

(1) The inspector may require any additional inspections at their discretion when deemed necessary for continued safety;
(2) The owner or user shall develop safety policies and procedures for entering boiler confined space before any inspection, testing, or operation; and
(3) The owner or user shall enforce a lockout tagout safety procedure as approved by the inspector when any person enters any confined space.

(f) The inspector providing inservice inspection for the facility in which the power boiler is installed has the following responsibilities:

(1) Verifying the Boiler Installation Report I-1 (NB-365, see Exhibit 3, titled, "Form I-1 Report of Boiler Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter) has been completed and signed by the installer;
(2) Verifying power boiler items comply with the laws and regulations of the jurisdiction governing the specific type of boiler;
(3) Verifying any repairs or alterations to power boiler items, which are conducted prior to, or during, the initial installation, are in accordance with the NBIC; and
(4) Completing and submitting the first inservice inspection/certificate report to the department. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-5 Technical installation requirements. (a) General requirements. The following shall apply to all power boilers:

(1) Power boilers shall be installed pursuant to section 12-220-2.1 and this chapter;

(2) Owners and users shall adhere to the power boiler installation requirements as specified in NBIC Part 1, and this chapter;

(3) An application for installation permit shall be submitted to the department prior to commencement of work;

(4) Boilers installed without an installation permit may be subject to citation and penalties of up to $10,000 per day pursuant to section 12-220-22;

(5) Only contractors holding a valid Hawaii C-4 contractor license issued by the contractors license board of the department of commerce and consumer affairs shall install power boilers; and

(6) All power boilers shall be equipped with controls and safety devices based upon the Btu/hr burner input, as specified in the original code of construction, and in accordance with the following codes and standards:

(A) Boilers with energy input ratings of less than 12,500,000 Btu/hr shall meet the requirements of [~~ASME CSD-1-2012;~~] ASME CSD-1;

(B) Boilers with energy input ratings of 12,500,000 Btu/hr and above shall meet the requirements of [~~NFPA-85-2015;~~] NFPA-85;

(C) All atmospheric fluidized bed boilers, boilers with pulverized fuel systems, and boilers that are stoker fired shall meet the requirements of [~~NFPA-85-2015;~~] NFPA-85; and

(D) No new miniature boiler shall be installed unless it has been constructed and inspected to ASME BPVC standards, bears the ASME certification

mark with the "S", "M", or "E" designator in accordance with the requirements of Part PMB of ASME BPVC Section I, and when required, has controls and safety devices installed that are in accordance with [~~ASME CSD-1-2012.~~] ASME CSD-1.

(b) First acceptance inspection and certification requirements shall include the following:

(1) The owner, user, and contractor shall comply with section 12-220-2.1, and upon completion of the installation shall arrange for an acceptance inspection by the department;

(2) The installing contractor shall operationally test the boiler controls and safety devices prior to scheduling the first acceptance inspection with the department and record the results on form CG-500, [~~ASME CSD-1 2012,~~] ASME CSD-1, and file a copy with the department;

(3) First inspections for power boilers shall include internal inspection, pressure test [~~in accordance with the original code of construction~~], and operational testing of the controls and safety devices;

(4) The installing contractor shall test the boiler as directed and witnessed by an inspector employed by the department;

(5) An inspector employed by the department shall conduct the first data inspection, acceptance, and mark the state serial number on the power boiler pursuant to section 12-220-29.1[~~; and~~]. Power boilers may not be placed into service until its installation has been inspected and accepted by the department;

(6) The installer shall complete and certify the NBIC Boiler Installation Report I-1 [~~(NB-365, see Exhibit 3), found at the end of this chapter~~], (NB-365, see Exhibit 3,

titled, "Boiler Installation Report I-1", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter) after the completion, inspection, and acceptance of the installation. The [~~Boiler Installation Report I-1 (NB-365, see Exhibit 3)~~] report shall be submitted to the owner and the department[~~.~~];

(7) The installer shall exercise care during installation to prevent loose weld material, welding rods, small tools, and miscellaneous scrap metal from getting into the vessel. Prior to making the final closure, the installer shall inspect the interior of the vessel and its appurtenances for the presence of foreign debris, and if present the debris shall be removed;

(8) Subject to department requirements, a leak test may be performed on any components whose pressure test is not documented under the items' Manufacturer's Data Report. This leak test should not exceed 90 per cent of the lowest pressure relief device setpoint. The test data shall be recorded, and the data made available as required; and

(9) All fuel fired boiler and fuel fired pressure vessel combustion air-fuel ratios shall be analyzed, adjusted, and values documented during commissioning to meet emission requirements of the department and limits of the manufacturer, as required.

(c) The following shall apply to power boiler clearances:

(1) Boiler installations shall allow for normal operation, maintenance, and inspections. There shall be at least thirty-six (36) inches of clearance on each side of a boiler to enable access for maintenance and inspection activities. Boilers operated in battery shall not be installed closer than forty-eight (48) inches from each other.

The front or rear of any boiler shall not be located closer than thirty-six (36) inches from any wall or structure;

(2) Alternative clearances in accordance with the manufacturer's recommendations are subject to acceptance by the department;

(3) Boilers shall be installed to allow for removal and installation of tubes;

(4) Boilers with a top-opening manhole shall have at least eighty-four (84) inches of unobstructed clearance above the manhole to the ceiling of the equipment room; other manhole openings shall have at least five (5) feet; and

(5) Boilers with a bottom opening used for inspection or maintenance shall have at least twelve (12) inches of unobstructed clearance.

(d) The following shall apply to electric and miniature boiler clearances:

(1) Electric and miniature boilers shall be installed at an accessible location for inspection and maintenance;

(2) Electric and miniature boilers shall not be installed in ceilings unless provided with permanent ladders, floors, and height clearance for safe access;

(3) Control sides and door openings shall have three (3) feet clearance from any type of interference;

(4) All other sides shall have eighteen (18) inches of clearance; and

(5) Alternative clearances in accordance with the manufacturer's recommendations are subject to acceptance by the department.

[Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-6 Pressure relief valves for power boilers. (a) General requirements. The following shall apply to all power boilers:

(1) Each power boiler, miniature boiler, electric boiler, and high-temperature water boiler shall have at least one ASME and NB certified pressure relief valve marked with the ASME certification mark and "V" designator, and National Board NB symbols;

(2) When a new boiler is installed, ASME Form P-7 Manufacturer's Data Report for Pressure Relief Valves, or ASME Form P-8 Manufacturer's or Assembler's Certificate of Conformance for Pressure Relief Valves, as required by the ASME BPVC, shall be submitted along with the manufacturer's data on the power boiler;

(3) Pressure relief valves shall be manufactured in accordance with a national or international consensus standard;

[~~(3)~~] (4) Only direct spring-loaded, pilot operated, or power actuated pressure relief valves or pilot operated pressure relief valves designed to relieve steam shall be used for steam service;

[~~(4)~~] (5) Safety relief valves are valves designed to relieve either steam or water, depending on the application;

[~~(5)~~] (6) Deadweight or weighted-lever pressure relief valves shall not be used;

[~~(6)~~] (7) For high-temperature water boilers, safety relief valves shall have a closed bonnet, and valve bodies shall not be constructed of cast iron;

[~~(7)~~] (8) At least one NB capacity certified pressure relief valve shall be installed on the boiler. If the boiler has more than [~~500~~] five hundred (500) square feet of bare tube water heating surface, or if an electric boiler has a power input of more than [~~1,100 kilowatts,~~] 3.76 million Btu/hr (1,100 kilowatts), two or more NB capacity certified pressure relief valves shall be

installed[~~,~~]. For a boiler with combined bare tube and extended water-heating surface exceeding five hundred (500) square feet, two or more pressure relief valves are required only if the maximum designed steaming capacity of the boiler exceeds 4,000 lb/hr;

[~~(8) The pressure relief valve capacity for each boiler shall be so that the valve or valves will discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than six per cent (6%) above the highest pressure to which any valve is set, and in no case to more than six per cent (6%) above the maximum allowable working pressure of the boiler. In no case shall the minimum relieving capacity be less than the maximum designed steaming capacity as determined by the manufacturer;~~]

(9) One or more pressure relief valves on the boiler proper shall be set at or below the maximum allowable working pressure. If additional valves are used, the highest pressure setting shall not exceed the maximum allowable working pressure by more than three per cent (3%). The complete range of pressure settings of all the pressure relief valves on a boiler shall not exceed ten per cent (10%) of the highest pressure to which any valve is set;

(10) Adjustments, repairs, and reconditioning of pressure relief valves shall be done by a National Board authorized "VR" repair company. The "VR" repair company shall affix a "VR" nameplate to the valve and provide repair documentation and the owner and user shall ensure that the nameplate identification plates remain legible; and

(11) The owner and user shall maintain all pressure relieving devices in good operating condition. When the valves cannot be tested in service, the user shall maintain and make

available to the inspector records showing the test dates and set pressure for the valves.

(b) Installation of pressure relief valves. The following shall apply to the installation requirements of pressure relief valves:

(1) Every boiler shall have outlet connections for the pressure relief valve, or valves, independent of any other outside steam connection, and the area of opening shall be at least equal to the aggregate areas of inlet connections of all the attached pressure relief valves. An internal collecting pipe, splash plate, or pan should be used, provided the total area for inlet of steam is not less than twice the aggregate areas of the inlet connections of the attached pressure relief valves. The holes in such collecting pipes shall be at least 1/4 inch in diameter, and the least dimension in any other form of opening for inlet of steam shall be 1/4 inch. If pressure relief valves are attached to a separate steam drum or dome, the opening between the boiler proper and the steam drum or dome shall be not less than ten (10) times the total area of the pressure relief valve inlet;

[~~(2) Every pressure relief valve shall be connected to stand in an upright position with spindle vertical;~~

~~(3) The opening or connection between the boiler and the pressure relief valve shall have at least the area of the valve inlet and the inlet pipe to the pressure relief valve shall be as short and straight as possible, no longer than twice the center-to-end (face) dimension of a corresponding tee fitting of the same diameter, pressure class, and connection type. When a discharge pipe is used, the cross-sectional area shall not be less than the full area of the valve outlet or of the total of the~~

areas of the valve outlets. It shall be as short and straight as possible and arranged to avoid undue stresses on the valve or valves;

(4) When a pressure relief valve is exposed to outdoor elements that may affect operation of the valve, the valve may be shielded with a cover. The cover shall be properly vented and arranged to permit servicing and normal operation of the valve;

(5) No valves of any type except a changeover valve as defined below, shall be placed between the pressure relief valves and the boiler, nor on the discharge pipe between the pressure relief valves and the atmosphere. A changeover valve, which allows two redundant pressure relief valves to be installed for the purpose of changing from one pressure relief valve to the other while the boiler is operating, may be used provided the changeover valve is in accordance with the original code of construction. It is recommended that the department be contacted to determine the acceptability of changeover valves on boiler applications. The changeover valve shall be designed such that there is no intermediate position where both pressure relief valves are isolated from the boiler;

(6) When two or more pressure relief valves are used on a boiler, they should be mounted either separately or as twin valves made by placing individual valves on Y-bases, or duplex valves having two valves in the same body casing. Twin valves made by placing individual valves on Y-bases or duplex valves having two valves in the same body shall be of equal size;

(7) When two valves of different sizes are installed singly, the relieving capacity of

~~the smaller valve shall not be less than fifty per cent (50%) of that of the larger valve; and~~

~~(8) When a boiler is fitted with two or more pressure relief valves on one connection, this connection to the boiler shall have a cross-sectional area not less than the combined areas of inlet connections of all the pressure relief valves with which it connects.~~]

(2) Pressure relief valves with an inlet connection greater than NPS 3 used for pressure greater than 15 psig shall have a flange or a welded inlet connection. The dimensions of flanges subjected to boiler pressure shall conform to the applicable standards;

(3) All covers, caps, and plugs utilized for shipping or transport shall be removed prior to installation or being placed in service; and

(4) Any wire or restraining device on lifting lever utilized for shipping or transport shall be removed prior to being placed in service.

(c) Discharge pipe. The following shall apply to pressure relief valve discharge piping requirements:

(1) All pressure relief valves shall be piped to a safe point of discharge so located or piped as to be carried clear from running boards or platforms. Provision for an ample gravity drain shall be made in the discharge pipe at or near each pressure relief valve, and where water or condensation may collect. Each valve shall have an open gravity drain through the casing below the level of the valve seat. For iron and steel-bodied valves exceeding NPS 2, the drain hole shall be tapped not less than NPS 3/8;

(2) Discharge piping from pressure relief valves on high-temperature water boilers shall have adequate provisions for water drainage as well as steam venting;

(3) If a muffler is used on a pressure relief valve, it shall have sufficient outlet area to prevent back pressure from interfering with the proper operation and discharge capacity of the valve. The muffler plates or other devices shall be so constructed as to avoid a possibility of restriction of the steam passages due to deposits[.]; mufflers shall not be used on high-temperature water boiler pressure relief valves; and

(4) When a discharge pipe is used, it shall be at least the same size of the safety valve discharge port and fitted with an open drain to prevent water lodging in the upper part of the safety valve or in the discharge pipe. Sectional areas of a common discharge pipe shall not be less than the same size of the combined multiple valve outlets discharging into the common discharge pipe. The discharge pipe shall be as short and straight as possible and arranged to avoid undue stresses on the valve or valves. Discharge pipe elbows shall be placed close to the safety valve outlet, or the discharge pipe shall be anchored and supported securely. If umbrella type drip pan connection is used, the discharge piping shall be designed to prevent binding due to expansion.

(d) Capacity. The following shall apply to pressure relief valve capacity of power boilers:

(1) The pressure relief valve capacity for each boiler shall be such that the valve or valves will discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than six

per cent (6%) above the maximum allowable working pressure of the boiler;

(2) The minimum relieving capacity for other than electric boilers and forced-flow steam generators with no fixed steam line and waterline shall be estimated for the boiler and waterwall heating surfaces as given in NBIC Part I, Table 2.9.1.3 below, but in no case shall the minimum relieving capacity be less than the maximum designed steaming capacity as determined by the manufacturer;

(3) The required relieving capacity, C, of the pressure relief valves on a high temperature water boiler shall be determined as follows:

(A) C = Q/L;

(B) C = required relieving capacity in lbs/hr (kg/hr);

(C) Q = maximum output in BTUH (W) at the boiler nozzle obtained by the firing of any fuel for which the unit is designed; and

(D) L = 1,000 BTU/lb (646W hr/kg);

(4) The minimum pressure relief valve capacity for electric boilers shall not be less than 3.5 lbs/hr/KW input; and

(5) If the pressure relief valve capacity cannot be computed, or if it is desirable to prove the computations, it should be checked by any one of the following methods; and if found insufficient, additional relieving capacity shall be provided:

(A) By performing an accumulation test by shutting off all other steam discharge outlets from the boiler and forcing the fires to maximum (this method should not be used on a boiler with a superheater or reheater, or on a high-temperature water boiler);

(B) By measuring the maximum amount of fuel that can be burned and computing the corresponding evaporative capacity on

the basis of the heating value of the fuel; or

(C) By determining the maximum evaporative capacity by measuring the feedwater. The sum of the pressure relief valve capacities marked on the valves shall be equal to or greater than the maximum evaporative capacity of the boiler. This method should not be used on high-temperature water boilers.

Table 2.9.1.3

MINIMUM POUNDS OF STEAM PER HOUR PER SQUARE FOOT OF HEATING SURFACE
lb steam/hr ft^2 (kg steam/hr m^2)

	Firetube Boiler	Watertube Boiler
Boiler Heating Surface		
Hand-fired	5 (24)	6 (29)
Stoker-fired	7 (34)	8 (39)
Oil, gas, or pulverized coal	8 (39)	10 (49)
Waterwall Heating Surface		
Hand-fired	8 (39)	8 (39)
Stoker-fired	10 (49)	12 (59)
Oil, gas, or pulverized coal	14 (68)	16 (78)
Copper-finned Watertubes		
Hand-fired		4 (20)
Stoker-fired		5 (24)
Oil, gas, or pulverized coal		6 (29)

Notes:

- When a boiler is fired only by a gas having a heat value not in excess of 200 Btu/ft.3(7.5MJ/m3), the minimum relieving capacity should be based on the values given for hand-fired boilers above.
- The heating surface shall be computed for that side of the boiler surface exposed to the products of combustion, exclusive of the superheating surface. In computing the heating surface for this purpose only the tubes, fireboxes, shells, tubesheets, and the projected area of headers need to be considered, except that for vertical firetube steam boilers, only that portion of the tube surface up to the middle gage cock is to be computed.
- For firetube boiler units exceeding 8,000 Btu/ft.2 (9,085 J/cm.2) (total fuel Btu (J) Input divided by total heating surface), the factor from the table will be increased by 1 (4.88) for every 1,000 Btu/ft.2 (1,136 J/cm.2) above 8,000 Btu/ft.2 (9,085 J/cm.2) For units less than 7,000 Btu/ft.2 (7,950 J/cm.2), the factor from the table will be decreased by 1 (4.88).
- For watertube boiler units exceeding 16,000 Btu/ft.2 (18,170 J/cm.2)(total fuel Btu input divided by the total heating surface) the factor from the table will be increased by 1 (4.88) for every 1,000 Btu/ft.2 (1,136 J/cm.2) above 16,000 Btu/ft.2 (18,170 J/cm.2). For units with less than 15,000 Btu/ft.2 (17,034 J/cm.2), the factor in the table will be decreased by 1 (4.88) for every 1,000 Btu/ft.2 (1,136 J/cm.2) below 15,000 Btu/ft.2 (17,034 J/cm.2).

(e) Location. The following shall apply to the location of the installation of pressure relief valves of power boilers:

(1) Pressure relief valves shall be placed on, or as close as physically possible to, the boiler proper;

(2) Pressure relief valves shall not be placed on the feedline;

(3) Pressure relief valves shall be connected to the boiler independent of any other connection without any unnecessary intervening pipe or fittings. The intervening pipe or fittings shall not be longer than the face-to-face dimension of the corresponding tee fitting of the same diameter and pressure rating as listed in the applicable standards;

(4) Every pressure relief valve shall be connected to stand in an upright position with spindle vertical;

(5) The opening or connection between the boiler and the pressure relief valve shall have at least the area of the valve inlet, and the inlet pipe to the pressure relief valve shall be as short and straight as possible, no longer than twice the center-to-end (face) dimension of a corresponding tee fitting of the same diameter, pressure

class, and connection type. When a discharge pipe is used, the cross-sectional area shall not be less than the full area of the valve outlet, or of the total of the areas of the valve outlets. The discharge pipe shall be as short and straight as possible and arranged to avoid undue stresses on the valve or valves;

(6) No valves of any type except a changeover valve as defined below, shall be placed between the pressure relief valves and the boiler, nor on the discharge pipe between the pressure relief valves and the atmosphere;

(7) A changeover valve, which allows two redundant pressure relief valves to be installed for the purpose of changing from one pressure relief valve to the other while the boiler is operating, may be used provided the changeover valve is in accordance with the original code of construction. It is recommended that the department be contacted to determine the acceptability of changeover valves on boiler applications. The changeover valve shall be designed such that there is no intermediate position where both pressure relief valves are isolated from the boiler;

(8) When two or more pressure relief valves are used on a boiler, they should be mounted either separately or as twin valves made by placing individual valves on Y-bases, or duplex valves having two valves in the same body casing. Twin valves made by placing individual valves on Y-bases or duplex valves having two valves in the same body shall be of equal size;

(9) When two valves of different sizes are installed singly, the relieving capacity of the smaller valve shall not be less than fifty per cent (50%) of that of the larger valve; and

(10) When a boiler is fitted with two or more pressure relief valves on one connection, this connection to the boiler shall have a cross-sectional area not less than the combined areas of inlet connections of all the pressure relief valves with which it connects. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-7 Power boiler appurtenances. (a) Water level indicators. The following shall apply to [~~all~~] water level indicators:

(1) Each steam boiler having a fixed waterline shall have at least one water gage glass, except [~~forced-flow steam generators with no fixed steam and waterline and high-temperature water boilers of the forced circulation type that have no steam and waterline;~~] that boilers operated at pressures over 400 psig shall be provided with two water gage glasses that may be connected to a single water column, or connected directly to the drum. The gage glass and pipe connections shall be not less than NPS 1/2. Each water gage glass shall be equipped with a drain valve;

(2) The lowest visible water level in a gage glass shall be at least two inches above the lowest permissible water level as determined by the manufacturer;

(3) Gage glasses shall be connected directly to the shell or drum of the boiler or to an intervening water column;

(4) The lower edge of the steam connection between a water column, gage glass, or water level sending device in the boiler, shall not fall below the highest visible water level in the gage glass. In addition, there shall be no sag of offset in the

piping that will permit accumulation of water;

(5) The upper edge of the water connection between water column, gage glass, or water level sensing device in the boiler, shall not be above the lowest visible water level in the gage glass. In addition, no part of the pipe connection shall be above the point of connection at the water column;

(6) [~~Boilers having a maximum allowable working pressure of 400 psi or less shall always have at least one gage glass in service;~~] For installations where the water-gage glass or glasses are not easily viewed by the operator, consideration should be given to install a method of remote transmission of the water level to the operating floor;

[~~(7) Boilers having maximum allowable working pressure greater than 400 psi shall always have two gage glasses in service:~~

~~(A) When two gage glasses are required, both may connect to a single water column;~~

~~(B) Instead of one of the two required gage glasses, two independent remote water level indicators (two discrete systems that continuously measure, transmit, and display water level) may be provided. In addition, minimum water levels shall be clearly marked;~~

~~(C) When both remote level indicators are in reliable operation, the remaining gage glass may be shut off, but shall be maintained in serviceable condition; and~~

~~(D) When the water level in at least one gage glass is not readily visible to the operator in the area where control actions are initiated, either a fiber optic cable (with no electrical modification of the optical signal) or mirrors shall be provided to transfer the optical image of the water level to the control area. Alternatively, any~~

~~combination of two of the following shall be provided:~~

~~(i) An independent remote water level indicator; and~~

~~(ii) An independent continuous transmission and display of an image of the water level in a gage glass. The display of a remote water level indicator shall have a clearly marked minimum water level reference at least two (2) inches above the lowest permissible water level, as determined by the manufacturer;~~]

(7) Boilers of the horizontal firetube type shall be so set that when the water is at the lowest reading in the water-gage glass, it shall be three (3) inches above the lowest permissible water level as determined by the manufacturer. Horizontal firetube boilers that do not exceed sixteen (16) inches in inside diameter shall have the lowest visible level in the gage glass at least one (1) inch above the lowest permissible level as determined by the manufacturer,

(8) Each water-gage glass shall be equipped with a top and a bottom shutoff valve of such through-flow construction as to prevent blockage by deposits of sediment and to indicate by the position of the operating mechanism whether they are in the open or closed position. The pressure-temperature rating shall be at least equal to that of the lowest set pressure of any safety valve on the boiler drum and the corresponding saturated stream pressure; provided that:

(A) Boilers having a maximum allowable working pressure of four hundred (400) psi or less shall always have at least one gage glass in service; or

(B) Boilers having maximum allowable working pressure greater than 400 psi shall always have two gage glasses in service:

(i) When two gage glasses are required, both may connect to a single water column;

(ii) Instead of one of the two required gage glasses, two independent remote water level indicators (two discrete systems that continuously measure, transmit, and display water level) may be provided. In addition, minimum water levels shall be clearly marked;

(iii) When both remote level indicators are in reliable operation, the remaining gage glass may be shut off, but shall be maintained in serviceable condition; and

(iv) When the water level in at least one gage glass is not readily visible to the operator in the area where control actions are initiated, either a fiber optic cable (with no electrical modification of the optical signal) or mirrors shall be provided to transfer the optical image of the water level to the control area.

Provided that alternatively any combination of either an independent remote water level indicator or an independent continuous transmission and display of an image of the water level in a gage glass may be used. If the latter is used, then the display of a remote water level indicator shall have a clearly marked minimum water level reference at least two (2) inches above the lowest permissible water level, as determined by the manufacturer;

[~~(8)~~] (9) Gage glass assemblies with multiple sections, whether of tubular or other construction, shall:

(A) Ensure a one-foot overlap of all adjoining sections so the water level is visible; or

(B) Ported or reflex gages using refractive light to aid determination of water level may omit the requirement of overlapping sections;

[~~(9)~~] (10) The gage glass cock connections shall not be less than one-half (1/2) of an inch NPS;

[~~(10)~~] (11) Each gage glass, externally mounted water level, or water level controlling device shall be fitted with a drain cock or valve having an unrestricted drain opening of not less than one-fourth (1/4) of an inch in diameter to facilitate cleaning;

[~~(11) No outlet connections, except for damper regulators, feedwater regulators, drains, steam gages, or apparatus of a form that does not permit the escape of an appreciable amount of steam or water therefrom, shall be placed in the pipes connecting a water column or gage glass to a boiler;~~

~~(12) The water column shall be fitted with a drain cock or drain valve of at least three-fourths (3/4) of an inch nominal pipe size and shall be piped to a safe point of discharge;~~

~~(13) Connections from the boiler to the water column shall be at least NPS 1;~~

~~(14) Connections for gage glasses connected directly to the boiler or to an intervening water column shall be at least NPS one-half (1/2);~~

~~(15) Connections from the boiler to a remote water level indicator shall be at least NPS three-fourths (3/4), including the isolation valve; and from there to the~~

~~remote level indicator at least one-half (1/2) of an inch in OD tubing;~~

~~(16) Water level connections shall be completely independent of other connections for any function other than water level indication;~~

~~(17) The steam and water connections to a water column or a water gage glass shall be readily accessible for internal inspection and cleaning; and~~

~~(18) Shutoff valves shall not be used in the pipe connections between a boiler and a water column, or between a boiler and the shutoff valves required for the gage glass, except:~~

~~(A) Outside screw-and-yoke or lever-lifting-type gate valves or stopcocks with lever permanently fastened thereto and marked in line with their passage; and~~

~~(B) Another through-flow construction that prevents stoppage by deposits of sediment, and to indicate by the position of the operating mechanisms whether they are in open or closed position. These valves or cocks shall be locked or sealed open. Where stopcocks are used, they shall be of a type with the plug held in place by a guard or gland.~~

(12) Connections for gage glasses connected directly to the boiler or to an intervening water column shall be at least NPS one-half (1/2);

(13) Connections from the boiler to a remote water level indicator shall be at least NPS three-fourths (3/4), including the isolation valve; and from there to the remote level indicator at least one-half (1/2) of an inch in OD tubing;

(14) Water level connections shall be completely independent of other connections for any function other than water level indication; and

(15) Electric steam boilers shall have at least one water-gage glass. On electrode type electric boilers, the gage glass shall be located as to indicate the water levels both at startup and maximum steam load conditions, as established by the boiler manufacturer. On resistance element type electric steam boilers, the lowest visible part of the gage glass shall be located at least 1 inch above the lowest permissible water level established by the boiler manufacturer.

(b) Low-water fuel cutoffs and water feeding devices. The following shall apply to low-water fuel cutoffs and water feeding devices:

(1) Each automatically fired[~~, high pressure steam~~] steam or vapor system boiler[~~, except miniature boilers,~~] shall have [~~at least two~~] an automatic [~~low water~~] low-water fuel [~~cut-off devices. When installed external to the boiler, each device shall be installed in individual chambers (water columns), which shall be attached to the boiler by separate pipe connections below the waterline. A common steam connection is permissible. Each cut-off device shall be installed to prevent startup and cut off the boiler fuel or energy supply automatically when the surface of the water falls to a level not lower than the lowest visible part of the gage glass. One control shall be set to function ahead of the other;~~] cutoff device so located as to automatically cut off the fuel supply when the surface of the water falls to the lowest visible part of the water-gage glass. If a water feeding device is installed, it shall be so constructed that the water inlet valve cannot feed water into the boiler through the float chamber and so located as to supply requisite feedwater; provided that such a fuel cutoff or water feeding device may be attached

directly to the boiler. A fuel cutoff or water feeding device may also be installed in the tapped openings available for attaching a water glass directly to the boiler, provided the connections are made to the boiler with nonferrous tees or Ys not less than NPS one-half (1/2) inch between the boiler and water glass so that the water glass is attached directly and as close as possible to the boiler, the run of the tee or Y shall take the water glass fittings, and the side outlet or branch of the tee or Y shall take the fuel cutoff or water feeding device. The ends of all nipples shall be reamed to full-size diameter. In addition, a secondary low-water fuel cutoff with manual reset shall be provided on each automatically fired steam or vapor system boiler;

(2) Functioning of the lower of the two controls shall cause safety shutdown and lockout. The manual reset may be incorporated in the lower [~~cut-off~~] cutoff control. Where a reset device is separate from the low-water fuel cutoff, a means shall be provided to indicate actuation of the [~~low water~~] low-water fuel cutoff. The manual reset device may be of the instantaneous type or may include a time delay of not more than three (3) minutes after the fuel has been cut off;

(3) The fuel [~~cut-off~~] cutoff device may be inserted internally or attached externally to the boiler. An external [~~cut-off~~] cutoff device may be attached on piping connecting a water column to the boiler or combined with a water column;

(4) Water column piping and connections shall be at least NPS 1 (DN 25). If the low-water fuel cutoff is connected to the boiler by pipe or fittings, no shutoff valves of any type shall be placed in such piping. The steam and water connections to a water

column shall be readily accessible for internal inspection and cleaning. Some acceptable methods of meeting this requirement are by providing a cross-fitting with a back outlet at each right-angle turn to permit inspection and cleaning in both directions or by using pipe bends or fittings of a type that does not leave an internal shoulder or pocket in the pipe connection and with a radius of curvature that will permit the passage of a rotary cleaner. Fuel [~~cut-off~~] cutoff devices embodying a separate chamber shall have a vertical drainpipe and blowoff valve, not less than NPS 3/4, located at the lowest point of the chamber or water-equalizing pipe connections, so that the chamber and the equalizing pipe can be flushed and the device tested;

(5) Fuel cutoffs and water feeding devices embodying a separate chamber shall have a vertical drainpipe, extended to a safe point of discharge, and a blowoff valve not less than NPS 3/4, located at the lowest point in the water equalizing pipe connections so that the chamber and the equalizing pipe can be flushed and the device tested;

[~~(5)~~] (6) Each miniature boiler, except electric boilers of the electrode type, shall have at least one [~~low water~~] low-water fuel [~~cut-off~~] cutoff device;

(7) Each electric steam boiler of the resistance element type shall be equipped with an automatic low-water cutoff so located as to automatically cut off the power supply to the heating elements before the surface of the water falls below the visible part of the glass. No low-water cutoff is required for electrode-type boilers;

[~~(6)~~] (8) These devices shall be installed in such a manner that they cannot be rendered inoperative by the manipulation of any manual control or regulating apparatus;

[~~(7)~~] (9) In boilers with a fixed water line, the low-water fuel cutoff devices shall be tested regularly by lowering the water level sufficiently to shut off the fuel supply to the burner when the water level reaches the lowest safe level for operation. Boilers that do not have a fixed water line shall be equipped with a flow sensing device, thermal couple or expansion ring that is listed by a nationally recognized testing agency to prevent burner operation at a flow rate inadequate to protect the boiler unit against overheating;

[~~(8)~~] (10) Boilers with single drain electronic solenoid valve shall be fitted with a manual by-pass drain line to facilitate testing of the [~~low water~~] low-water cutoff safety device;

[~~(9)~~] (11) The low-water cutoff shall be rated for a pressure and temperature equal to or greater than the MAWP and temperature of the boiler;

[~~(10)~~] (12) For high-temperature water boilers requiring forced flow circulation, an approved flow sensing device shall be installed on the outlet, as close to the boiler as possible;

[~~(11)~~] (13) When a low-water fuel cutoff and feedwater pump control is combined in a single device, an additional separate low-water fuel cutoff shall be installed. The additional control shall be wired in series electrically with the existing low-water fuel cutoff;

[~~(12)~~] (14) When a low-water fuel cutoff is housed in either the water column or a separate chamber it shall be provided with a blowdown pipe and valve not less than 3/4

inch NPS. The arrangement shall be such that when the water column is blown down, the water level in it will be lowered sufficiently to activate the lower-water fuel cutoff device; and

[~~(13)~~] (15) If a water feed device is utilized, it shall be constructed to prevent feedwater from entering the boiler through the water column or separate chamber of the low-water fuel cutoff.

(c) Pressure gages. The following shall apply to pressure gages:

(1) Each steam boiler shall have a pressure gage connected to the steam space or to the steam connection to the water column. When a pressure-reducing valve is installed in the steam supply piping, a pressure gage shall be installed on the low pressure side of the pressure-reducing valve;

(2) The dial range shall not be less than 1.5 times and no greater than approximately two times the pressure at which the lowest pressure relief valve is set;

(3) For a steam boiler, the gage or connection shall contain a siphon or equivalent device that will develop and maintain a water seal that will prevent steam from entering the gage tube. A valve or cock shall be placed in the gage connection adjacent to the gage. An additional valve or cock should be located near the boiler providing it is locked or sealed in the open position. No other shut-off valves shall be located between the gage and the boiler; and

(4) Pressure gage connections shall be suitable for the maximum allowable working pressure and temperature, but if the temperature exceeds 406°F, brass or copper pipe or tubing shall not be used. The connections to the boiler, except for the siphon, if used, shall not be less than NPS 1/4 inch Where steel or wrought iron pipe or tubing is used, it shall not be less than 1/2 inch

inside diameter. The minimum size of a siphon, if used, shall be 1/4 inch inside diameter.

(d) Water columns. The following are requirements for water columns:

(1) The water column shall be directly connected to the boiler. Outlet connections (except for damper regulator, feedwater regulator, low-water fuel cutoff, drains, steam gages, or such apparatus that does not permit the escape of an appreciable amount of steam or water) should not be placed on the piping that connects the water column to the boiler;

(2) Straight-run globe valves of the ordinary type shall not be used on piping that connects the water column to the boiler. Where water columns are seven (7) feet or more above the floor level, adequate means for operating gage cocks or blowing out the water glass shall be provided;

(3) When automatic shutoff valves are used on piping that connects the water column to the boiler, they shall conform to the requirements of the code of construction for the boiler;

(4) When shutoff valves are used on the connections to a water column, they shall be either outside-screw and yoke or lever-lifting-type gate valves or stop cocks with levers permanently fastened thereto and marked in line with their passage, or of such other through-flow constructions to prevent stoppage by deposits of sediment and to indicate by the position of the operating mechanism whether they are in open or closed position;

provided that the valves or cocks shall be locked or sealed open;

(5) The water column shall be fitted with a drain cock or drain valve of at least three-fourths (3/4) of an inch nominal pipe

size and shall be piped to a safe point of discharge;

(6) Connections from the boiler to the water column shall be at least NPS 1;

(7) The steam and water connections to a water column or a water gage glass shall be readily accessible for internal inspection and cleaning; and

(8) Shutoff valves shall not be used in the pipe connections between a boiler and a water column, or between a boiler and the shutoff valves required for the gage glass, except:

(A) Outside screw-and-yoke or lever-lifting-type gate valves or stopcocks with lever permanently fastened thereto and marked in line with their passage; and

(B) Another through-flow construction that prevents stoppage by deposits of sediment, and to indicate by the position of the operating mechanisms whether they are in open or closed position. These valves or cocks shall be locked or sealed open. Where stopcocks are used, they shall be of a type with the plug held in place by a guard or gland. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-8 Boiler external and non-boiler external piping. Boiler external piping (BEP).

(1) BEP shall be designed, fabricated, installed and stamped in accordance with ASME BPVC Section I and ASME B31.1;

(2) Manufacturers of BEP shall possess an ASME certificate of authorization to use the certification mark with the "S" or "PP" designator;

(3) BEP may be installed by a manufacturer or contractor other than the manufacturer of the boiler, provided the organization has been issued a certificate of authorization to use the certification mark with the "S", "PP" or "A" designator; and in possession of a current and valid Hawaii contractors license as required in section 12-220-15;

(4) Prior to starting BEP installation, an application for installation shall be submitted to the department for an installation permit; and

(5) Welded repairs or alterations to boiler external piping shall be done by a company in possession of a valid NB "R" certificate of authorization.

(b) Non-boiler external piping (NBEP).

(1) NBEP design, fabrication, installation, alteration, or repair shall be done in accordance with the applicable provisions of the ASME BPVC, ASME B31.1, NBIC and this part;

(2) NBEP may be designed, fabricated, installed, altered, or repaired by organizations with valid ASME "S", "PP", or "A" designators or a NB "R" certificate of authorization, or organizations with a valid Hawaii NBEP certificate of authorization;

(3) Applicants whose quality control program have been reviewed, approved, and issued an NBEP certificate of authorization by the department shall be qualified to design, fabricate, install, alter, or repair NBEP within the provisions of ASME B31.1 and NBIC Part 3; and

(4) Application for authorization for design, fabrication, installation, alteration, or repair shall be submitted to the department as prescribed in section 12-220-9.1. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-9 Electric and miniature boilers. (a) In accordance with ASME BPVC Section 1, new miniature boilers shall be constructed, inspected, and bear the ASME certification mark with the "S", "M", or "E" designator. The controls and safety devices shall be installed in accordance with ASME CSD-1. New miniature boiler installations shall comply with section 12-222.1-5.

(b) Miniature boilers used in generating steam for autoclave sterilizers shall be registered separately from the autoclave. The autoclave shall be registered as a pressure vessel if size and pressure is within limits unless exempted by section 12-220-2.1(c).

(c) The maximum allowed working pressure is 100 psi in accordance with the ASME BPVC section 1.

(d) Each miniature boiler shall be equipped with a sealed spring-loaded pop safety valve of not less than one-half (1/2) inch NPS.

(e) Each steam line from a miniature boiler shall be provided with a steam rated stop valve located as close to the boiler shell or drum as is practicable, except when the boiler and steam receiver is operated as a closed system.

(f) Miniature boilers for operation with a definite water level shall be equipped with a glass water gage for determining the water level. The lowest permissible water level for vertical boilers shall be at a point one-third (1/3) of the height of the shell above the bottom head or tube sheet. The following shall apply:

(1) Tubular gage glasses on electric boilers shall be equipped with protective rods or shields; and

(2) Each gage glass shall be fitted with a drain cock and valve having an unrestricted drain opening of not less than one-fourth (1/4) inch diameter to facilitate water flush draining of the gage glass.

(g) Where the boiler is equipped with an internal furnace, the water level shall not be less than one-

third (1/3) of the length of the tubes above the top of the furnace tube sheet.

(h) In the case of small boilers operated in a closed system where there is insufficient space for the usual glass water gage, water level indicators of the glass bull's eye type may be used.

(i) Miniature boilers shall be provided with at least one feed pump or other feeding device, except where it is connected to a water main carrying sufficient pressure to feed the boiler or where it is operated with no extraction of steam (closed system). In the latter case, in lieu of a feeding device, a suitable connection or opening shall be provided to fill the boiler when cold. Such connection shall be no less than one-half (1/2) inch NPS for iron or steel pipe and one-fourth (1/4) inch NPS for brass or copper pipe.

(j) The feed pipe shall be provided with a check valve and a stop valve of a size not less than that of the pipe. The feedwater may be delivered through the blowoff opening if desired.

(k) Miniature boilers shall be equipped with a blowoff connection, not less than one-half (1/2) inch NPS, located to drain from the lowest water space practicable. The blowoff piping shall be equipped with a stop valve not less than one-half (1/2) inch NPS.

(l) Miniature boilers solely equipped with an automatic/timed blowoff valve shall be equipped with a manual bypass loop which bypasses automatic valve to facilitate testing of the [~~low water~~] low-water cutoff controls.

(m) Miniature boilers exceeding twelve (12) inches internal diameter or having more than ten (10) square feet of heating surface shall be fitted with not less than three (3) brass washout plugs of one-inch NPS which shall be screwed into openings in the shell near the bottom. In miniature boilers of the closed type system heated by removable internal electric heating elements, the openings for these elements, when suitable for cleaning purposes, may be substituted for washout openings.

(n) Boilers not exceeding twelve (12) inches internal diameter and having less than ten (10) square

feet of heating surface need not have more than two (2) one-inch openings for clean-outs, one of which may be used for the attachment of the blow-off valve. These openings shall be opposite to each other where possible. The following shall apply:

(1) All threaded openings shall be opposite to each other where possible; and

(2) All threaded openings in the boiler shall be provided with a riveted or welded reinforcement to give four (4) full threads therein.

(o) Electric boilers of a design employing a removable top cover flange for inspection and cleaning need not be fitted with washout openings.

(p) All valves, pipe fittings, and appliances connected to a miniature boiler shall be equal to at least the requirements of Class 125 or Class 150 of the appropriate ASME Standard as listed in ASME BPVC Section I.

(q) All welded repairs and alterations to miniature boilers must comply with the rules in this part [~~as defined in~~] and NBIC Part 3[~~.~~] requirements.

[Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-10 Attendance. (a) An unattended power boiler log [~~(Exhibit 4)~~], an example of which is in Exhibit 4, titled, "Unattended Power Boiler Log", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, shall be maintained by owners or operators at the boiler operating area to record daily checks and inspections and the following shall apply:

(1) Boiler operation log entries shall be updated; daily, not to exceed twelve (12) hours for a single entry; and

(2) The daily operating log shall be available to the inspector of record for a period of not less than six (6) months.

(b) Power boilers, waste heat boilers, and high-temperature water boilers subject to this chapter shall

not be left in operation unattended by a competent attendant for a period of time longer than it will take the water level to drop from a normal operating level to the lowest permissible water level, as indicated by the water gage glass, or by indicating devices or recorders, when the feed water is shut off and the boiler is forced to its maximum capacity, unless all of the following are complied with where applicable:

(1) The boiler is equipped with a strobe or flashing light that will operate when the water reaches the lowest permissible operating level, or, for boilers having no fixed steam or water line, when the highest permissible operating temperature is reached. The strobe or flashing light shall be so located that can be plainly seen at the most remote point from the boiler at which the attendant is required to work. Audible alarms, when used, shall be distinctly audible above the ambient noise level;

(2) The boiler is equipped with two [~~low water~~] low-water safety devices with separate water connections to the boiler that will shut off the fuel to the burner or burners when the water reaches the lowest permissible operating level, or, for boilers having no fixed steam or water line, when the highest permissible operating temperature is reached. These devices shall require manual resetting unless the burner is equipped with a full safety pilot control;

(3) A competent attendant personally checks the operation of the boiler, the necessary auxiliaries, and the water level of the boiler at such intervals, not exceeding sixty (60) minutes, as necessary to insure the safe operation of the boiler. The operation of the automatic water level controls shall be tested such that fuel to the burner will be shut off at the beginning of each daily period of operation and at intervals not to exceed twelve (12) operating hours. A record of each inspection and check of controls shall be

maintained and available to an inspector for a period of six (6) months prior to the inspection;

(4) There is a conspicuous and readily accessible safety disconnect switch located adjacent to the boiler room entrance or, in the situation where the boiler is located outside, in the immediate vicinity of the boiler which, when operated, will cut off all power to the boiler and cause it to shut down in a safe manner. Immediately adjacent to the disconnect device there shall be posted a sign conspicuously directing the observer to use the device for shutting down the boiler in event of emergency, such as observing any unsafe condition or functioning of the boiler or its appurtenances or any condition or function of the boiler which is unusual, or which is, in the observer's opinion, potentially hazardous;

(5) A competent attendant means a person who is familiar with the operation of the boiler and may be certified by a curriculum accredited college, university, technical school, or organization serving the boiler industry;

(6) The minimum standards to be met for an attendant to be competent include, but are not limited to the following, as detailed in the ASME BPVC Section VII:

(A) The ability to explain the function and operation of all controls and safety devices on the boiler and operate the boiler in a safe manner;

(B) The knowledge of all possible methods of feeding water to the boiler; and boiler blowoff/blowdown procedure; and

(C) Shutting down the boiler or boilers in a safe manner; and

(7) The attendant performs a recommended operation checklist schedule recorded at each regular shift not to exceed twelve (12) hours, and checks and records the following:

(A) Externally examine unit for leaks or unusual conditions;

(B) Check burner flame;
(C) Check gages, monitors, and indicators;
(D) [~~Low water~~] Low-water cutoff and alarm test; and
(E) Water column and gage glass blowdown.
[Eff and comp 12/21/19; comp]
(Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-11 Boiler room and operating area. (a) The following shall apply to the care of the boiler room:

(1) The boiler room shall be free from accumulation of rubbish and materials that obstruct access to the boiler, its setting, or firing equipment;
(2) The storage of flammable material or gasoline powered equipment in the boiler room is prohibited;
(3) The roof over boilers designed for indoor installations, shall be free from leaks and maintained in good condition;
(4) Adequate drainage shall be provided;
(5) All exit doors shall open outward; and
(6) It is recommended that the ASME BPVC Section VII be used as a guide for proper and safe operating practices.

(b) The following shall apply to boiler supports, foundations, and settings:

(1) Each boiler and its associated piping shall be safely supported. Design of supports, foundations, and settings shall consider vibration, including seismic where necessary, movement including thermal expansion and contraction, and loadings including the weight of the fluid in the system during a pressure test in accordance with jurisdictional requirements, manufacturers recommendations, and other industry standards as applicable; and
(2) If the boiler is supported by structural steel, the steel supporting members shall be

so located or insulated that the heat from the furnace will not affect their strength. Structural steel shall be installed in accordance with jurisdictional requirements, manufacturer's recommendations, and other industry standards, as applicable.

(c) Exit. Two means of exit shall be provided for equipment rooms exceeding five hundred (500) square feet of floor area and containing one or more boilers having a combined fuel capacity of 1,000,000 Btu/hr or more (or equivalent electrical heat input). Each elevation shall be provided with at least two means of exit, each to be remotely located from each other. A platform at the top of a single boiler is not considered an elevation.

(d) Ladders and runways. The following shall apply to ladders and runways:

(1) All walkways, runways, and platforms shall be of metal construction or equivalent material;

(2) Provided between or over the top of boilers that are more than eight (8) feet above the operating floor to afford accessibility for normal operation, maintenance, and inspection;

(3) Constructed of safety treads, standard grating, or similar material and have a minimum width of thirty (30) inches; of bolted, welded, or riveted construction; and equipped with handrails forty-two (42) inches high with an intermediate rail and four (4) inch toe-board;

(4) Stairways that serve as a means of access to walkways, runways, or platforms shall not exceed an angle of forty-five (45) degrees from the horizontal and shall be equipped with handrails forty-two (42) inches high with an intermediate rail;

(5) Ladders that serve as a means of access to walkways, runways, or platforms shall:

(A) Be made of metal construction and not less than eighteen (18) inches wide;

(B) Have rungs that extend through the side members and are permanently secured;

(C) Have a clearance of not less than thirty (30) inches from the front of rungs to the nearest permanent object on the climbing side of the ladder;

(D) Have a clearance of not less than six and a half (6-1/2) inches from the back of rungs to the nearest permanent object; and

(E) Have a clearance width of at least fifteen (15) inches from the center of the ladder on either side across the front of the ladder; and

(6) There shall be at least two permanently installed means of exit from walkways, runways, or platforms that exceed six (6) feet in length.

(e) Fuel. Fuel systems, whether firing coal, oil, gas, or other substance, shall be installed in accordance with departmental, environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(f) Ventilation and combustion air. The following shall apply to ventilation and combustion air:

(1) The equipment room shall have an adequate air to permit clean, safe combustion, minimize soot formation, and maintain a minimum of nineteen and a half per cent (19.5%) oxygen in the air of the equipment room and sufficient to maintain ambient temperatures as recommended by the boiler manufacturer. The combustion and ventilation air should be supplied by either an unobstructed air opening or by power ventilation or fans[~~. When combustion air is supplied to the boiler by an independent duct, with or without the employment of power ventilators or fans, the duct shall be sized and installed in accordance with the manufacturer's recommendations~~];

(2) When combustion air is supplied to the boiler, heater, or vessel by an independent duct, with or without the employment of power ventilators or fans, the duct shall be sized

and installed in accordance with the manufacturer's recommendations[~~;~~]provided that ventilation for the equipment room must still be considered;

(3) Unobstructed air openings shall be sized based on the manufacturer's recommendations, or as specified by the National Fire Protection Association (NFPA) standards for oil and gas burning installations for the particular job conditions, or 1 square inch free area per 2000 Btu/hr maximum fuel input of the combined burners located in the equipment room. The equipment room supply openings shall be kept clear at all times;

(4) Power ventilators or fans shall be sized on the basis of 0.2 cfm for each 1000 Btu/hr of maximum fuel input for the combined burners of all boilers and heaters located in the equipment room. Additional capacity may be required for other fuel burning equipment in the equipment room;

(5) When power ventilators or fans are used to supply combustion air, they shall be installed with interlock devices so that burners will not operate without an adequate number of ventilators or fans in operation;

(6) The size of openings specified in subsection (c) may be reduced when special engineered air supply systems approved by the [~~jurisdiction~~] department are used; and

(7) Care shall be taken to ensure that steam, water, and fluid lines are not routed across combustion air openings, where freezing may occur.

(g) Lighting. The equipment room shall be well lit and have an emergency light source for use in case of power failure.

(h) Chimneys or stacks shall be installed in accordance with jurisdictional, environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(i) Ash removal systems shall be installed in accordance with jurisdictional, environmental

requirements, manufacturer's recommendations, and industry standards, as applicable.

(j) Carbon monoxide (CO) detector/alarm. The owner or user shall install a carbon monoxide detector/alarm in equipment rooms where fuel fired boilers or fuel fired pressure vessels are located, in accordance with manufacturer's recommendation, and industry standards, as applicable.

[~~(j)~~] (k) Water (cleaning). A convenient water supply shall be provided for flushing out the boiler and its appurtenances, adding water to the boiler while it is not under pressure, and cleaning the equipment room floor.

(l) Final acceptance. A power boiler may not be placed into service until its installation has been inspected and accepted by the department. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-12 Operating requirements. (a) Feedwater volume. The source of feedwater shall be capable of supplying a sufficient volume of water as determined by the boiler manufacturer to prevent damage to the boiler when all the safety relief valves are discharging at full capacity.

(b) Feedwater connection. The following shall apply to feedwater connection:

(1) To prevent thermal shock, feedwater shall be introduced into a boiler in such a manner that the water will not be discharged directly against surfaces exposed to high temperature gases or to direct radiation from the flame;

(2) For boiler operating pressures of 400 psig or higher, the feedwater inlet through the drum shall be fitted with shields, sleeves, or other suitable means to reduce the effects of temperature differentials in the shell or head;

(3) Feedwater other than condensate return shall not be introduced through the blowoff;

(4) Boilers having more than 500 square feet of water heating surface shall have at least two means of supplying feedwater. For boilers that are fired with solid fuel not in suspension, and boilers whose setting or heat source can continue to supply sufficient heat to cause damage to the boiler if the feedwater supply is interrupted, one such means of supplying feedwater shall not be subject to the same interruption as the first method. Boilers fired by gaseous, liquid, or solid fuel in suspension may be equipped with a single means of supplying feedwater, provided means are furnished for the immediate removal of heat input if the supply of feedwater is interrupted;

(5) For boilers having a water heating surface of not more than 100 square feet, the feedwater piping and connection to the boiler shall not be smaller than NPS 1/2. For boilers having a water heating surface more than 100 square feet, the feedwater piping and connection to the boiler shall not be less than NPS 3/4;

(6) Electric boiler feedwater connections shall not be smaller than NPS 1/2; and

(7) High-temperature water boilers shall be provided with means of adding water to the boiler or system while under pressure.

(c) Pumps. The following shall apply to pumps:

(1) Boiler feedwater pumps shall have discharge pressure more than the highest set pressure relief valve to compensate for frictional losses, entrance losses, regulating valve losses, and normal static head, etc. Each source of feedwater shall be capable of supplying feedwater to the boiler at a minimum pressure of three per cent (3%) higher than the highest setting of any pressure relief valve on the boiler proper. Detailed engineering evaluation of the pump selection shall be performed and available for review. Table 2.5.1.3 is a guideline for estimating feedwater pump differential;

TABLE 2.5.1.3

GUIDE FOR FEEDWATER PUMP DIFFERENTIAL

Boiler Pressure		Boiler Feedwater Pump Discharge Pressure	
psig	(MPa)	psig	(MPa)
200	(1.38)	250	(1.72)
400	(2.76)	475	(3.28)
800	(5.52)	925	(6.38)
1,200	(8.27)	1,350	(9.31)

(2) For forced-flow steam generators with no fixed steam or water line, each source of feedwater shall be capable of supplying feedwater to the boiler at a minimum pressure equal to the expected maximum sustained pressure at the boiler inlet corresponding to operation at maximum designed steaming capacity with maximum allowable pressure at the superheater outlet; and

(3) Control devices may be installed on feedwater piping to protect the pump against overpressure.

(d) Feedwater valves. The following shall apply to feedwater valves:

(1) The feedwater piping shall be provided with a check valve and a stop valve. The stop valve shall be located between the check valve and the boiler;

(2) When two or more boilers are fed from a common source, there shall also be a globe or regulating valve on the branch to each boiler located between the check valve and the feedwater source;

(3) When the feedwater piping is divided into branch connections and all such connections are equipped with stop and check valves, the stop and check valve in the common source may be omitted;

(4) On single boiler-turbine unit installations, the boiler feedwater stop valve may be

located upstream from the boiler feedwater check valve;

(5) If a boiler is equipped with duplicate feedwater supply arrangements, each such arrangement shall be equipped as required by these rules;

(6) A check valve shall not be a substitute for a stop valve;

(7) A combination feedwater stop-and-check valve in which there is only one seat and disk and a valve stem is provided to close the valve when the stem is screwed down shall be considered only as a stop valve; a separate check valve shall also be installed;

(8) Whenever globe valves are used on feedwater piping, the inlet shall be under the disk of the valve;

(9) Stop valves and check valves shall be placed on the inlet of economizers or feedwater-heating devices; and

(10) The recirculating return line for a high-temperature water boiler shall be provided with the stop valve, or valves, required for the main discharge outlet on the boiler.

(e) Blowoff.

(1) Except for forced-flow steam generators with no fixed steam or water line, each boiler shall have a blowoff pipe, fitted with a stop valve, in direct connection with the lowest water space practicable. When the maximum allowable working pressure of the boiler exceeds one hundred (100) psig (700 kPa), there shall be two valves installed;

(2) The blowoff piping for each electric boiler pressure vessel having a nominal water content not exceeding one hundred (100) gallons is required to extend through only one valve;

(3) When two valves are required, each bottom blowoff pipe shall have two slow-opening valves, or one quick-opening valve, at the boiler nozzle followed by a slow-opening valve;

(4) Two independent slow-opening valves, or a slow-opening valve and quick-opening valve, may be combined in one body provided the combined fitting is the equivalent of two independent slow-opening valves, or a slow-opening valve and a quick-opening valve, and the failure of one to operate cannot affect the operation of the other;

(5) Straight-run globe valves or valves where dams or pockets can exist for the collection of sediment shall not be used;

(6) The blowoff valve or valves and the pipe and fittings between them and the boiler shall be of the same size. The minimum size of pipe and fittings shall be NPS 1, except boilers with one hundred (100) square feet or less of heating surface should be NPS 3/4. The maximum size of pipe and fittings shall not exceed NPS 2-1/2;

(7) For electric boilers, the minimum size of blowoff pipes and fittings shall be NPS 1, except for boilers of two hundred (200) kw input or less where the minimum size should be NPS 3/4;

(8) Fittings and valves shall comply with the appropriate national standard except that austenitic stainless steel and malleable iron are not permitted;

(9) When the maximum allowable working pressure exceeds one hundred 100 psig, blowoff piping shall be at least Schedule 80 and the required valves and fittings shall be rated for at least 1.25 times the maximum allowable working pressure of the boiler. When the maximum allowable working pressure exceeds 900 psig, blowoff piping shall be at least Schedule 80 and the required valves and fittings shall be rated for at least the maximum allowable working pressure of the boiler plus 225 psi;

(10) All blowoff piping, when exposed to furnace heat, shall be protected by fire brick or

other heat resisting material so constructed that the piping may be readily inspected;

(11) On a boiler having multiple blowoff pipes, a single master stop valve should be placed on the common blowoff pipe from the boiler and one stop valve on each individual blowoff. Either the master valve or the valves on the individual blowoff lines shall be of the slow-opening type;

(12) The discharge of blowoff pipes shall be located so as to prevent injury to personnel;

(13) All waterwalls or water screens that do not drain back into the boiler and integral economizers forming part of a boiler shall be equipped with blowoff piping and valves conforming to the requirements of this subsection;

(14) Blowoff piping from a boiler should not discharge directly into a sewer. A blowoff tank, constructed to the provisions of a code of construction acceptable to the jurisdiction, shall be used where conditions do not provide an adequate and safe open discharge;

(15) Galvanized pipe shall not be used;

(16) Boiler blowoff systems should be constructed in accordance with the Guide for Blowoff Vessels (NB-27), which can be found on the National Board website at www.nationalboard.org;

(17) Where necessary to install a blowoff tank underground, it shall be enclosed in a concrete or brick pit with a removable cover so that inspection of the entire shell and heads of the tank can be made; and

(18) Piping connections used primarily for continuous operation, such as deconcentrators on continuous blowdown systems, are not classed as blowoffs; but the pipe connections and all fittings up to and including the first shutoff valve shall be equal at least to the pressure requirements for the lowest set pressure of any safety valve on the

boiler drum and with the corresponding saturated-steam temperature. Further, such connections shall not exceed NPS 2-1/2.

(f) Drains. Each boiler shall have at least one drainpipe fitted with a stop valve at the lowest point of the boiler. If the connection is not intended for blowoff purposes, a single valve is acceptable if it can be locked in the closed position or a blank flange can be installed downstream of the valve. If the connection is intended for blowoff purposes, requirements of (e) shall be followed.

(1) For high temperature water boilers, the minimum size of the drainpipe shall be NPS 1; and

(2) Drainpipes, valves, and fittings within the same drain line shall be the same size.

[~~(e)~~] (g) Electrical. A disconnecting means capable of being locked in the open position shall be installed at an accessible location at the boiler so that the boiler can be disconnected from all sources of potential. This disconnecting means shall be an integral part of the boiler or adjacent to it.

[~~(f)~~] (h) Wiring. All wiring for controls, heat generating apparatus, and other appurtenances necessary for the operation of the boiler or boilers should be installed in accordance with the provisions of national or international standards and comply with the applicable local electrical codes.

[~~(g)~~] (i) Remote emergency shutdown switches. The following shall apply to remote emergency shutdown switches:

(1) A manually operated remote shutdown switch or circuit breaker shall be located just outside the equipment room door and marked for easy identification. Consideration should also be given to the type and location of the switch to safeguard against tampering. Where approved by the [~~jurisdiction,~~] department, alternate locations of remote emergency switches may be provided;

(2) For equipment rooms exceeding 500 square feet floor area, or containing one or more boilers having a combined fuel capacity of 1,000,000

Btu/hr or more, additional manually operated remote emergency shutdown switches shall be located at suitably identified points of egress acceptable to the [~~jurisdiction;~~] department;

(3) Where a boiler is located indoors in a facility and not in an equipment room, a remote emergency shutdown switch shall be located within fifty (50) feet of the boiler along the primary egress route from the boiler area;

(4) For atmospheric-gas burners and for oil burners where a fan is on the common shaft with the oil pump, the emergency remote shutdown switches or circuit breakers must disconnect all power to the burner controls; [~~and~~]

(5) For power burners with detached auxiliaries, the emergency remote shutdown switches or circuit breakers need only shut off the fuel input to the burner[~~.~~];and

(6) When existing boiler installations do not include remote emergency shutdown switches, it is not required that these switches be retroactively installed unless required by the department. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-13 Controls and heat-generating apparatus. (a) Oil and gas-fired and electrically heated boilers shall be equipped with suitable primary (flame safe-guard) safety controls, safety limit switches and controls, and burners or electric elements as required by a nationally or internationally recognized standard.

(b) The symbol of the certifying organization that has approved such equipment as having complied with a nationally recognized standard shall be affixed to the equipment and shall be considered as evidence

that the unit was manufactured in accordance with that standard.

(c) These devices shall be installed in accordance with departmental, environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(d) Each automatically fired steam boiler shall be protected from overpressure by two pressure operated controls.

(e) Each individual steam boiler or each system of commonly connected steam boilers shall have a control that will cut off the fuel supply when the steam pressure reaches an operating limit, which shall be less than the maximum allowable working pressure.

(f) Each individual automatically fired steam boiler shall have a safety limit control, with a manual reset, that will cut off the fuel supply to prevent steam pressure from exceeding the maximum allowable working pressure of the boiler. Each control shall be constructed to prevent a pressure setting above the maximum allowable working pressure of the boiler.

(g) Shutoff valves of any type shall not be placed in the steam pressure connection between the boiler and the controls described in subsections (e) and (f). These controls shall be protected with a siphon or equivalent means of maintaining a water seal that will prevent steam from entering the control. The connections to the boiler shall not be less than NPS 1/4 (DN 8) for lengths up to and including five (5) feet (1.5 meters), and not less than NPS 1/2 (DN 15) for lengths over five (5) feet (1.5 meters), but where steel or wrought iron pipe or tubing is used, they shall not be less than NPS 1/2 (DN 15) for lengths up to and including five (5) feet (1.5 meters), and not less than NPS 1 (DN 25) for lengths over five (5) feet (1.5 meters). The minimum size of an external siphon shall be NPS 1/4 (DN 8) or 3/8 inch (10 milimeters) outside diameter nonferrous tubing. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-14 Emergency valves and controls. All emergency shut-off valves and controls shall be accessible from a floor, platform, walkway, or runway. Accessibility shall mean within a six (6) foot elevation of the standing space and not more than twelve (12) inches horizontally from the standing space edge. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-222.1-15 Preventive maintenance. The owner or user of the pressure retaining item is responsible for ensuring that all equipment is maintained as listed in [~~Exhibits 1 2 and 4 of this section.~~] Exhibit 1, titled, "Recommended Preventative Maintenance Schedule", dated October 1, 2023; Exhibit 2, titled, "Table D-1-1 Periodic Testing Recommended Checklist", dated October 1, 2023; and Exhibit 4, titled, "Unattended Power Boiler Log", dated October 1, 2023. Exhibits 1, 2, and 4 are made part of this chapter and located at the end of this chapter." [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

Recommended Preventive Maintenance Schedule

D-1 INTRODUCTION

Operation and maintenance instructions in this Appendix are intended for general applications. Table D-1-1 presents a periodic checklist for these recommended preventive maintenance tasks. For specific operating and maintenance instructions, consult the equipment manufacturer.

D-2 DAILY

(a) Check gages, monitors, and indicators.
(b) Check instrument and equipment settings.
(c) For high-pressure boilers, test all low-water fuel cutoff devices and alarms.
(d) Check burner flame.

D-3 WEEKLY

(a) For low-pressure boilers, test all low-water fuel cutoff devices and alarms.
(b) Check igniter.
(c) Check flame signal strength.
(d) Check flame failure detection system.
(e) Check firing rate control.
(f) Make aural and visual check of pilot and main fuel valves.

D-4 MONTHLY

(a) Check flue, vent, stack, or outlet dampers.
(b) Test low draft, fan air pressure, and damper position interlocks.
(c) Check low fire start interlock.
(d) Test high and low oil pressure and oil temperature interlocks.
(e) Test high and low gas-pressure interlocks.

D-5 SEMIANNUALLY

(a) Recalibrate all indicating and recording gages.
(b) For steam boilers, perform a slow drain test of all the low-water fuel cutoff devices.
(c) Check flame failure detection system components.
(d) Check firing rate control.
(e) Check piping and wiring of all interlocks and shutoff valves.
(f) Inspect burner components.

D-6 ANNUALLY

(a) Flame failure detection system, conduct pilot turndown test.
(b) Flame failure detection system, test for hot refractory hold-in.
(c) Check dual fuel change over control.
(d) Test high-limit and operating temperature or steam pressure controls.
(e) Replace vacuum tubes, scanners, or flame rods in accordance with manufacturer's instructions.
(f) Conduct a combustion test.
(g) Check all coils and diaphragms; test other operating parts of all safety shutoff and control valves.
(h) Test safety shutoff valve proof-of-closure switch(es) in accordance with manufacturer's instructions.
(i) Perform leakage test on pilot and main gas and/or oil fuel valves and valve proving systems in accordance with manufacturer's instructions.
(j) Test purge air switch in accordance with manufacturer's instructions.
(k) Test air/steam interlock in accordance with manufacturer's instructions.
(l) Test burner position interlock in accordance with manufacturer's instructions.
(m) Test rotary cup interlock in accordance with manufacturer's instructions.
(n) Test low fire start interlock in accordance with manufacturer's instructions.
(o) Test for gas leakage on all threaded and flanged connections.
(p) Verify burner is operating within manufacturer's specifications.

D-7 AS REQUIRED

(a) Recondition or replace low-water fuel cutoff device.
(b) For oil-fired burners, clean atomizers and oil strainers.
(c) For gas-fired burners, check sediment trap and gas strainers.
(d) Flame failure detection system, conduct pilot turndown test.
(e) Flame failure detection system, test for hot refractory hold-in.
(f) Test safety/safety relief valves in accordance with ASME Boiler and Pressure Vessel Code, Sections VI and VII.
(g) For parallel positioning systems, verify actuator-to-fuel-valve couplings and actuator-to-damper couplings are properly connected.
(h) For combustion air fan variable frequency drive applications, test interlocks wired to the primary flame safety device including drive fault interlocks and improper speed control interlocks.

Table D-1-1 Periodic Testing Recommended Checklist

Frequency [Note (1)]								Accomplished By	
D	W	M	S/A	A	A/R	Component/Item	Recommended Test	Boiler Operator	Service Technician
X	...	...	...	...	...	Gages, monitors, and indicators	Make visual inspection and record readings in boiler log.	X	...
...	...	...	X	...	...	Gages, monitors, and indicators	Recalibrate all indicating and recording gages.	...	X
X	...	...	...	...	...	Instrument and equipment settings	Make visual check against factory-recommended specifications.	X	...
X	...	...	...	...	...	Low-water fuel cutoff devices (high-pressure boilers)	Test all low-water fuel cutoff devices according to manufacturer's instructions.	X	...
...	X	...	...	...	...	Low-water fuel cutoff devices (low-pressure boilers)	Test all low-water fuel cutoff devices according to manufacturer's instructions.	X	...
...	...	...	X	...	...	Low-water fuel cutoff devices (steam boilers)	For steam boilers, perform a slow drain test in accordance with ASME Boiler and Pressure Vessel Code, Section VI.	...	X
...	...	...	...	...	X	Low-water fuel cutoff devices	Recondition or replace each low-water fuel cutoff device.	...	X
...	...	...	...	X	...	Operating and/or limit controls	Test high-limit and operating temperature or steam pressure controls.	...	X
...	...	...	...	...	X	Safety/safety relief valves	Test safety/safety relief valves in accordance with ASME Boiler and Pressure Vessel Code, Sections VI and VII.	...	X
...	...	X	...	...	...	Flue, vent, stack, or outlet dampers	Make visual inspection of linkage, and check for proper operation.	X	...
X	...	...	...	...	...	Burner flame	Make visual inspection of burner flame [Note (2)].	X	...
...	X	...	...	...	...	Igniter	Make visual inspection, and check flame signal strength if meter-fitted.	X	...
...	X	...	...	...	...	Flame signal strength	If flame signal meter is installed, read and log. For both pilot and main flames, notify service organization if readings are very high, very low, or fluctuating (refer to manufacturer's instructions).	X	...
...	X	...	...	...	...	Flame failure detection system	Close manual fuel supply for (1) pilot, (2) main fuel cock, and/or (3) valve(s). Check safety shutdown timing and log.	X	...

EXHIBIT 2 Continued

Frequency [Note (1)]								Accomplished By	
D	W	M	S/A	A	A/R	Component/Item	Recommended Test	Boiler Operator	Service Technician
...	...	...	X	...	...	Flame failure detection system	Check flame failure detection system components, such as vacuum tubes, amplifier, and relays.	...	X
...	...	...	...	X	...	Flame failure detection system	Replace vacuum tubes, scanners, or flame rods in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	X	Flame failure detection system (pilot turndown test)	Conduct pilot turndown test according to manufacturer's instructions. This test is required annually and after any adjustments to flame scanner mount or pilot burner.	...	X
...	...	...	...	X	X	Flame failure detection system (hot refractory hold in test)	Test for hot refractory hold-in. This test is required annually and after any adjustments to the flame scanner mount or pilot burner.	...	X
...	X	...	...	...	...	Firing rate control	Check firing rate control, and verify factory settings (refer to manufacturer's instructions).	X	...
...	...	...	X	...	...	Firing rate control	Check firing rate control, and verify factory settings (refer to manufacturer's instructions).	...	X
...	...	...	...	X	...	Firing rate control	Conduct a combustion test, and verify settings are in accordance with manufacturer's instructions.	...	X
...	X	...	...	...	...	Pilot and/or main fuel valves	Open limit switch, and make aural and visual check. Check valve position indicators, and check fuel meters if so fitted.	X	...
...	...	...	...	X	...	Pilot and/or main fuel valves	Check all coils and diaphragms. Test other operating parts of all safety shutoff and control valves.	...	X
...	...	...	...	X	...	Pilot and/or main fuel valves	Test fuel valve interlock switch in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Pilot and/or main fuel valves	Perform leakage test on pilot and main gas and/or oil fuel valves, in accordance with manufacturer's instructions.	...	X
...	...	X	...	...	...	Low draft, fan, air pressure, and damper position interlocks	Test low draft, fan, air pressure, and damper position interlocks according to manufacturer's instructions.	X	...

EXHIBIT 2 Continued

Frequency [Note (1)]								Accomplished By	
D	W	M	S/A	A	A/R	Component/Item	Recommended Test	Boiler Operator	Service Technician
...	...	...	...	X	...	Low draft, fan, air pressure, and damper position interlocks	Test purge switch in accordance with manufacturer's instructions.	...	X
...	...	X	...	...	...	Low fire start interlock	Check low fire start interlock according to manufacturer's instructions.	X	...
...	...	...	...	X	...	Low fire start interlock	Test low fire start interlock according to manufacturer's instructions.	...	X
...	...	X	...	...	...	Oil pressure and temperature interlocks	Test high and low oil pressure and temperature interlocks according to manufacturer's instructions.	X	...
...	...	X	...	...	...	Gas pressure interlocks	Test high and low gas-pressure interlocks according to manufacturer's instructions.	X	...
...	...	...	X	...	...	Interlocks and valves	Check piping and wiring of all interlocks and shutoff valves.	...	X
...	...	...	...	X	...	Atomizing air/steam interlock	Test air/steam interlock in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Burner position interlock	Test burner position interlock in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Rotary cup burner interlock	Test rotary cup interlock in accordance with manufacturer's instructions.	...	X
...	...	...	X	...	...	Burner components	Inspect burner components according to manufacturer's instructions.	...	X
...	...	...	...	X	X	Burner components	Check dual fuel change over control. If automatically controlled by gas utility, perform test under the supervision of gas utility.	...	X
...	...	...	...	...	X	Burner components	For oil-fired burners, clean atomizers and oil strainers.	...	X
...	...	...	...	...	X	Burner components	For gas-fired burners, check sediment trap and gas strainer.	...	X

GENERAL NOTE: See manufacturer's instructions.

NOTES:

(1) D = daily; W = weekly; M = monthly; S/A = semiannually; A = annually; A/R = as-required.

(2) Caution should be used when viewing burner flame. Personal protective equipment, such as filtered eyeware, may be necessary.

FORM I-1 REPORT OF BOILER INSTALLATION

in accordance with provisions of the *National Board Inspection Code*

INSTALLATION: ☐ New ☐ Reinstalled ☐ Second Hand Date ____/____/____

INSTALLER	OWNER-USER	OBJECT LOCATION
Name	Name	Name
Street	Street, PO Box, RR	Street
City, State, ZIP	City, State, ZIP	City, State, ZIP

Jurisdiction No.	National Board No.	Manufacturer		Mfg. Serial No.	Year Built	Boiler Type	Boiler Use
Fuel	Method of Firing	Btu/kW input	Btu/kW output	Operating PSI	ASME Code Designator(s) ☐A ☐S ☐U ☐HLW ☐M ☐E ☐H ☐Other		
Stamped MAWP	Heating Surface, Sq. Ft.	Cast Iron	Manhole	Specific On-Site Location, i.e., Utility Room			
Pressure Relief Valve Size	Pressure Relief Valve Set Pressure	Pressure Relief Valve Capacity ☐Btu/hr ☐Lb/hr	Manufacturer	Low-Water Fuel Cutoff Mfg. _____ No.			
1. _____	1. _____	1. _____	1. _____	Probe Type _____			
2. _____	2. _____	2. _____	2. _____	Flow Switch _____			
3. _____	3. _____	3. _____	3. _____	Float & Chamber _____			
4. _____	4. _____	4. _____	4. _____	Other (Specify) _____			

PRESSURE/ALTITUDE GAGE:	EXPANSION TANK:	VENTILATION AND COMBUSTION AIR
Dial Graduation _____	ASME Constructed ☐Yes ☐No	Unobstructed Opening (sq. in.) _____
Valve/Cock Size _____ MAWP _____	Other _____	Power Ventilator Fan (CFM) _____
Pipe Connection Size _____	MAWP _____	
Siphon or Equivalent Device ☐Yes ☐No	No. Gallons _____	

WATER LEVEL INDICATORS:	FEED WATER SUPPLY:
Number of Gage Glasses _____	Number of Feeding Means _____
Number of Remote Indicators _____	Pipe Size _____
Size of Connection Piping _____	Stop Valve Size _____ MAWP _____
	Check Valve Size _____ MAWP _____
STOP VALVES:	EXTERNAL PIPING ASME CODE: ☐Yes ☐No ☐Other _____ FUEL TRAIN: ☐CSD-1 ☐NFPA-85 ☐Other _____
Number of Valves _____	
Valve Size _____	
BOTTOM BLOWDOWN CONNECTIONS:	POTABLE WATER HEATER UNIQUE REQUIREMENTS ☐Yes ☐No
Number of Valves _____	Inlet Stop Valve Size _____ MAWP _____
Valve Size _____ MAWP _____	Outlet Stop Valve Size _____ MAWP _____
Piping Run Full Size ☐Yes ☐No	Drain Valve Size _____
	Thermometer ☐Yes
Manufacturer's Certification Attached: ☐Yes ☐No	Clearance from walls and floors:
Does boiler replace existing one: ☐Yes ☐No	Side _____ Bottom _____ Top _____

Additional recommendations and remarks by installer:

Installer Name (PRINT)	Registration #	I HEREBY CERTIFY THAT THE INSTALLATION COMPLIES WITH NBIC, Part 1
		Installer Signature

1.4.5.1.1 GUIDE FOR COMPLETING NATIONAL BOARD BOILER INSTALLATION REPORT (21)

1) INSTALLATION: Indicate the type and date of installation — new, reinstalled, or second hand.
2) INSTALLER: Enter the installer's name and physical address.
3) OWNER-USER: Enter the name and mailing address of the owner-user of the boiler.
4) OBJECT LOCATION: Enter the name of the company or business and physical address where the installation was made.
5) JURISDICTION NO.: Enter the Jurisdiction number if assigned at the time of installation.
6) NATIONAL BOARD NO.: Enter the assigned National Board number.
   Note:
   Cast section boilers do not require National Board registration.
7) MANUFACTURER: Enter the boiler manufacturer's name.
8) MFG. SERIAL NO.: Enter the assigned boiler manufacturer's serial number.
9) YEAR BUILT: Enter the year the boiler was manufactured.
10) BOILER TYPE: Enter the type of boiler, e.g., watertube, firetube, cast, electric, etc.
11) BOILER USE: Enter the service for which or for how the boiler will be used, e.g., heating (steam or water), potable water, etc.
12) FUEL: Enter the type of fuel, e.g., natural gas, diesel, wood, etc. If more than one fuel type, enter the types for which the boiler is equipped.
13) METHOD OF FIRING: Enter the method of firing, e.g., automatic, hand, stoker, etc.
14) Btu/kW INPUT: Enter the Btu/hr or kW input of the boiler.
15) Btu/kW OUTPUT: Enter the Btu/hr or kW output of the boiler.
16) OPERATING PSI: Enter the allowed operating pressure.
17) ASME CODE DESIGNATOR'S: Check the ASME Code designator shown on the code nameplate or stamping of other certification mark (specify).
18) STAMPED MAWP: Enter the maximum allowable working pressure shown on the nameplate or stamping.
19) HEATING SURFACE SQ. FT.: Enter the boiler heating surface shown on the stamping or nameplate.
    Note:
    This entry is not required for electric boilers.

20) CAST BOILER: Enter the total number of sections for cast boilers.
Note:
Not all cast boilers are sectional. Mono-block cast boilers should be described as having one (1) section.

21) MANHOLE: Indicate whether the boiler has a manway.

22) SPECIFIC ON-SITE LOCATION: Enter the on-site location of the boiler in sufficient detail to allow location of that boiler.

23) PRESSURE RELIEF VALVE SIZE: Enter the inlet and outlet size of all installed boiler safety or safety relief valves.

24) PRESSURE RELIEF VALVE SET PRESSURE: Enter the set pressure of all installed boiler safety or safety relief valves.

25) PRESSURE RELIEF VALVE CAPACITY: Enter the capacity in either lbs. of steam per hour or Btu/hr for each installed boiler safety or safety relief valve.

26) MANUFACTURER: Enter the manufacturer of each installed boiler safety and safety relief valve.

27) LOW-WATER FUEL CUTOFF: Enter the manufacturer's name, type, number, and maximum allowable working pressure of all installed low-water fuel cutoff devices.

28) PRESSURE/ALTITUDE GAGE: Enter the dial range of the installed pressure or altitude gage, cutout valve or cock size, a maximum allowable working pressure, and gage pipe connection size. For steam boilers, indicate gage siphon or equivalent device installed.

29) EXPANSION TANK: Indicate code of construction of installed expansion tank, tank maximum allowable working pressure, and tank capacity in gallons.

30) VENTILATION AND COMBUSTION AIR: Indicate total square inches of unobstructed opening or total cubic feet per minute of power ventilator fan(s) available for ventilation and combustion air.

31) WATER LEVEL INDICATORS: Enter the number of gage glasses and/or remote indicators and connecting pipe size.

32) FEEDWATER SUPPLY: Enter the total number of feeding means, connecting pipe size, stop and check valve size, and maximum allowable working pressure.

33) STOP VALVE(S): Enter the number of stop valves installed, valve size, and maximum allowable working pressure.

34) POTABLE WATER HEATER UNIQUE REQUIREMENTS: Indicate if stop valves are installed and, if so, enter size and maximum allowable working pressure. Enter drain valve size and indicate installation of thermometer at or near boiler outlet.

35) MANUFACTURER'S CERTIFICATION ATTACHED: Indicate if manufacturer's certificate is attached (mandatory for new installations).

36) CLEARANCE REQUIREMENTS AND REPLACEMENT OF EXISTING BOILER: Indicate clearances and whether the installation replaced an existing boiler.

37) ADDITIONAL REMARKS: Enter any remarks or comments you deem appropriate.

38) INSTALLER'S NAME AND SIGNATURE: Print installer's name and registration number and sign completed report.

EXHIBIT 4 October 1, 2023

Unattended Power Boiler Log

Hgw: No Year Month Company

Day	5am	&am	7am	earn	9am	10am	11am	Noon	1pm	2pm	3pm	4pm	5pm	Remarks (Including date & time)
Ex-Jmpte		1 3	VS	,,	,,	,	v	v	v	"'2	v	v	V6 4	
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29														
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31														

CODE

' **Normal Operating Check** (boiler in service)
Started Boiler & Tested Low Water Control
Tested LWC (required every 12hours when the boiler isinservice)**Test with the Burner** On, **Test Must Extinguish Burner and Ring Low Water** Alarm

3 **Added Chemicals**
4 **Blow-down**
5 **Tested Safety Valve** (first workingday of the month hand raise spindle)
6 **Stopped Boiler**

NOTE: The completed log must be available to the boiler inspector for at least six (6) months.

EXHIBIT 4 Continued

Day	6pm	7pm	8pm	9pm	10pm	11pm	Mid-night	1am	2am	3am	4am	Remarks
1												
2												
3												
4												
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CODE

v Normal Operating Check (boiler in service)
Started Boiler & Tested Low Water Control

2 Tested LWC (required every 12hours when the boiler is in service) Test with the Burner On, Test Must Extinguish Burner and Ring Low Water Alarm

3 Added Chemicals

4 Blow.down

5 Tested Safety Valve (first working day of the month hand raise spindle)

6 Stopped Boiler

3. Chapter 12-223.1, Hawaii Administrative Rules, entitled "Heating Boilers – Steam Heating Boilers, Hot-Water Heating Boilers, Hot-Water Supply Boilers, and Potable Water Heaters", is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION

PART 10

BOILER AND PRESSURE VESSELS

CHAPTER 223.1

HEATING BOILERS – STEAM HEATING BOILERS, HOT-WATER HEATING BOILERS, HOT-WATER SUPPLY BOILERS, AND POTABLE WATER HEATERS

Historical Note: This chapter is based substantially upon chapter 223. [Eff 12/6/82; am 12/9/83; am and comp 12/6/90; am 7/6/98; am 11/18/12; R 12/21/19]

§12-223.1-1 Scope. Service limitations. The requirements of this section shall apply to heating boilers including steam heating boilers not exceeding fifteen (15) psig, hot-water heating boilers, hot-water supply boilers, and potable water heaters, but not limited to the following:

(1) Steam heating boiler: steam or vapor boiler operating at pressures not exceeding fifteen (15) psig;
(2) Hot-water heating boiler: hot-water boiler installed to operate at pressures not exceeding 160 psig or temperatures more than 250 degrees Fahrenheit;
(3) Hot-water supply boiler: a boiler that furnishes hot water to be used externally to itself at a pressure less than or equal to 160 psig or a temperature less than or equal

to 250 degrees Fahrenheit at or near the boiler outlet;

(4) Modular boiler: a steam or hot-water heating assembly consisting of a group of individual heating boilers called modules, without intervening stop valves in between the modules, intended to be installed as a system unit, with a single inlet and single outlet. Modules may be under one jacket or may be individually jacketed;

(5) Pool heater: a boiler in which no steam is generated, from which hot water is circulated to a swimming pool, hot tub, or spa and returned to the boiler, and which operates at a pressure not exceeding 160 psig or a temperature not exceeding 250 degrees Fahrenheit;

(6) Potable water heaters: a corrosion resistant appliance that includes the controls and safety devices to supply potable hot water at pressure not exceeding 160 psig and temperature not more than 210 degrees Fahrenheit and includes the following types:

(A) Fired storage water heater: a potable water heater in which water is heated by electricity, the combustion of solid, liquid, or gaseous fuels, and stores water within the same appliance;

(B) Indirect fired water heater: a potable water heater in which water is heated by an internal coil or heat exchanger that receives its heat from an external source. Indirect fired water heaters provide water directly to the system or store water within the same appliance; and

(C) Circulating water heater: a potable water heater which furnishes water directly to the system or to a separate storage tank. Circulating water heaters may be either natural or forced flow; and

(7) Modular water heaters: a hot-water heating assembly consisting of a group of individual water heaters called modules having an aggregate input value greater than 200,000 Btu per hour (58.6 KW), with or without intervening stop valves in between the modules, intended to be installed as a system unit, with a single inlet and single outlet. Modules may be under one jacket or may be individually jacketed. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-2 General requirements for heating boilers. (a) The following shall apply to all heating boilers:

(1) All heating boilers in operation in this jurisdiction shall have a current and valid operating permit issued to a specific location by the department;

(2) Changes in location or ownership shall require department notification and may require reinspection;

(3) Heating boilers shall bear the ASME Code Symbol Stamp "H", "HLW" or ASME certification mark with "H", "HLW" designator and the NB registration number;

(4) ASME and NB stamping shall be legible and not be concealed by insulation or paint; and

(5) Upon completion of the installation of a new heating boiler, it shall be marked by the inspector employed by the department with a state serial number, consisting of letters and figures to be not less than 5/16 inch in height and arranged as HHB####-Year.

(b) Steam heating boilers not in use for a period of one year or more, for any reason, shall be inspected internally and externally before being placed into operation.

(c) Replacement of an existing heating boiler shall be in accordance with the requirements for new heating boiler installations.

(d) Replacement of a heating boiler at an existing location with a used or secondhand boiler shall comply with the requirements of new heating boiler installations. The following shall apply to used or secondhand heating boilers:

(1) Used or secondhand heating boilers when installed in this jurisdiction, shall be equipped with fittings and appurtenances that comply with new installations; and

(2) Weld repairs, alterations, and inspection records shall be submitted with the installation application for used or second-hand heating boilers.

(e) Replacement or repairs to boiler fittings, appurtenances or appliances, controls and safety devices, shall comply with the requirements for new installations and applicable ASME BPVC and NBIC sections.

(f) Galvanized pipe shall not be used for steam supply and blowdown piping.

(g) State specials: applicable provisions include sections 12-220-2(b) and 12-220-16(e)(6). [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-3 Responsibility of owners and users. The following are requirements of owners and users:

(1) The owner or user of the pressure retaining item is responsible for ensuring that all equipment meets all the requirements of the department at the point of installation including licensing, registration, and certification of those performing installations. The department may require additional safety standards and when a conflict arises, the rules of the department shall prevail;

(2) Owners or users shall ensure heating boilers are operated only with a valid operating permit. The operation of a heating boiler with an expired operating permit is not allowed and may be subject to penalties as described in this part. Changes in location or ownership shall require notification of the department and may require reinspection;

(3) Owners or users shall ensure operating permit renewal inspections are completed prior to the permit expiration date. It is the responsibility of the owner or user to schedule boiler permit renewal inspections. Permit renewal inspections shall include boiler shutdown, dismantling, internal inspection where applicable, and testing of controls and safety devices;

(4) Additional inspection requirements may be conducted at the inspector's discretion, e.g., internal inspections, pressure tests, and non-destructive exams (NDEs);

(5) Request for the extension of the operating permit expiration date may be considered for valid reasons by submitting a written request to the chief boiler inspector;

(6) The unavailability of the special inspector to conduct inspections is not a valid reason for requesting permit extensions; deputy inspectors may perform the inspection in the absence of the special inspectors;

(7) When a boiler task is required, it is the owner or the owner's designee that is expected to perform such task, however, the owner retains responsibility for compliance; and

(8) Owners or users are responsible to ensure compliance with the preventive maintenance requirements as specified in 12-223.1-14.

[Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-223.1-4 Inspections. (a) Initial heating boiler acceptance inspections shall be conducted and witnessed by the chief boiler inspector or a deputy inspector designee. The initial inspection shall include internal inspection where construction permits, post-installation pressure test [~~in accordance with the requirements of the original code of construction~~], and operational testing of controls and safety devices in accordance with ASME CSD-1, NBIC, and this chapter by the installer, contractor, or owner.

(b) Permit renewal inspections. The following shall apply to permit renewal inspections:

(1) Steam or vapor heating boilers shall have an external inspection every two years, or where construction permits, an internal inspection at the discretion of the inspector;

(2) Steam or vapor heating boilers with a heating surface greater than twenty (20) square feet and less than or equal to one hundred (100) square feet shall be internally inspected at least every four years;

(3) Steam or vapor heating boilers with any one of the following criteria: a manway, a Btu per hour input greater than 400,000, or a heating surface greater than one hundred (100) square feet, shall be internally inspected annually. They shall be externally inspected and operationally tested approximately six months after the internal inspection;

(4) Hot-water heating, hot-water supply heating boilers, potable water heaters (including modular installations) shall have an external inspection every two years, or where construction permits, an internal inspection at the discretion of the inspector;

(5) Pool heaters shall have an external inspection every two years;

(6) State special: see sections 12-220-2(b) and 12-220-16(e)(6); and

(7) Based upon actual service conditions by the owner or user of the operating equipment, the department may, at its discretion, permit

variations in the inspection frequency requirements. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-5 Technical installation requirements. (a) General requirements. The following shall apply to all heating boilers:

(1) Heating boilers shall be installed pursuant to sections 12-220-2, 12-220-2.1, 12-220-5, 12-220-6, 12-220-15, and this chapter;

(2) Owners and users shall adhere to the heating boiler installation requirements as specified in the NBIC Part 1;

(3) An application for installation permit shall be submitted to the department prior to commencement of work;

(4) Heating boilers installed without an installation permit may be subject to penalties of up to $10,000 per day pursuant to section 12-220-22;

(5) Only contractors holding a valid Hawaii C-4 contractor license shall install steam heating, hot-water heating, hot-water supply heating boilers, and water heaters with more than 200,000 Btu per hour (58.6 KW);

(6) Contractors holding a valid Hawaii C-37 contractor license may install water heaters up to 200,000 Btu per hour; and

(7) All heating boilers shall be equipped with controls and safety devices based upon the Btu per hour burner input, as specified in the original code of construction.

(b) First acceptance inspection and certification requirements shall include the following:

(1) The owner and contractor shall comply with section 12-220-2.1 and upon completion of the installation, shall arrange for an acceptance inspection by the department;

(2) For heating boilers subject to ASME CSD-1 requirements, the installing contractor shall

operationally test the controls and safety devices prior to scheduling the first acceptance inspection with the department, and record the results on form CG-500, ASME CSD-1 (Exhibit 4[~~)~~], titled, "Manufacturer's/Installing Contractor's Report for ASME CSD-1", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter), and file a copy with the department;

(3) Additional inspection requirements may be conducted at the inspector's discretion, e.g. internal inspections, pressure tests, and non-destructive exams (NDEs);

(4) The installing contractor shall test the boiler as directed and witnessed by the chief boiler inspector or designated deputy inspector;

(5) The chief boiler inspector or designated deputy inspector shall conduct the first data inspection, acceptance, and mark the state serial number on the heating boiler pursuant to section 12-220-29.1; and

(6) The installer shall complete and certify the NB Boiler Installation Report I-1 (NB-365, see Exhibit 3[~~)~~], titled, "Form I-1 Report of Boiler Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter), after the completion, inspection, and acceptance of the installation by an inspector employed by the department. The NB Boiler Installation Report I-1 [~~(NB365, see Exhibit 3)~~] shall be submitted to the owner and the department.

(c) The following shall apply to heating boiler clearances:

(1) Heating boilers shall have a minimum distance of at least thirty-six (36) inches between the top of the heating boiler and any overhead structure and at least thirty-six (36) inches between all sides of the heating boiler and adjacent walls, structures, or other equipment. Heating boilers with

manholes shall have at least eighty-four (84) inches of clearance between the manhole opening and any wall, ceiling, piping, or other equipment that may prevent a person from entering the heating boiler. Alternative clearances in accordance with the manufacturer's recommendations are subject to acceptance by the [~~jurisdiction;~~] department;

(2) Modular heating boilers that require individual units to be set side by side, front to back, or by stacking shall provide clearances in accordance with the manufacturer's recommendations and subject to acceptance by the department;

(3) Heating boilers shall be located so that adequate space is provided for proper operation, maintenance, and inspection of equipment and appurtenances, which shall include the removal of tubes if applicable;

(4) Heating boilers with a top opening manhole shall have at least eighty-four (84) inches of unobstructed clearance above the manhole to the ceiling of the equipment room; and

(5) Heating boilers with a bottom opening used for inspection or maintenance shall have at least twelve (12) inches of unobstructed clearance. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-6 Controls and safety devices. Where applicable, steam heating, hot-water heating, and hot-water supply heating boilers, shall be equipped with controls and safety devices as specified in the original code of construction, and in accordance with ASME CSD-1. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-7 Instruments, fittings, and controls.

(a) The following shall apply to steam heating boilers:

(1) Gages. The following shall apply to gages:

(A) Each steam boiler shall have a steam gage, or a compound steam gage connected to its steam space or to its water column or to its steam connection. The gage or connection shall contain a siphon or equivalent device that will develop and maintain a water seal that will prevent steam from entering the gage tube. The connection shall be so arranged that the gage cannot be shut off from the boiler except by a cock placed in the pipe at the gage and provided with a tee-handle or lever-handle arranged to be parallel to the pipe in which it is located when the cock is open. The connections to the boiler shall be not less than NPS 1/4. Where steel or wrought iron pipe or tubing is used, the connection and external siphon shall be not less than NPS 1/2. The minimum size of a siphon, if used, shall be NPS 1/4. Ferrous and nonferrous tubing having inside diameters at least equal to that of standard pipe sizes listed above may be substituted for pipe; and

(B) The scale on the dial of a steam boiler gage shall be graduated to not less than thirty (30) psig nor more than sixty (60) psig. The travel of the pointer from zero (0) psig to thirty (30) psig pressure shall be at least three (3) inches;

(2) Water gage glasses. The following shall apply to water gage glasses:

(A) Each steam boiler shall have one or more water-gage glasses attached to the water column or boiler by means of valved fittings not less than NPS 1/2, with the

lower fitting provided with a drain valve of a type having an unrestricted drain opening not less than NPS 1/4 to facilitate cleaning. Gage glass replacement shall be possible under pressure. Water glass fittings may be attached directly to a boiler. Heating boilers having an internal vertical height of less than ten (10) inches should be equipped with a water level indicator of the glass bulls-eye type provided the indicator is of sufficient size to show the water at both normal operating and low-water cutoff levels;

(B) The lowest visible part of the water-gage glass shall be at least one (1) inch above the lowest permissible water level recommended by the boiler manufacturer. With the boiler operating at this lowest permissible water level, there shall be no danger of overheating any part of the boiler;

(C) In electric heating boilers of the submerged electrode type, the water-gage glass shall be so located to indicate the water levels both at startup and under maximum steam load conditions as established by the manufacturer;

(D) In electric heating boilers of the resistance element type, the lowest visible part of the water gage shall be located at least one (1) inch above the lowest permissible water level specified by the manufacturer. Each electric boiler of this type shall also be equipped with an automatic low-water cutoff on each boiler so located as to automatically cut off the power supply to the heating elements before the surface of the water falls below the visible part of the glass;

(E) Tubular water glasses on electric heating boilers having a normal water

content not exceeding 100 gallons shall be equipped with a protective shield; and

(F) Transparent material other than glass may be used for the water gage provided that the material will remain transparent and has proved suitable for the pressure, temperature, and corrosive conditions expected in service;

(3) Water column and water level control pipes. The following shall apply to water column and water level control pipes:

(A) The minimum size of ferrous or nonferrous pipes connecting a water column to a steam boiler shall be NPS 1. No outlet connections, except for damper regulator, feedwater regulator, steam gages, or apparatus that does not permit the escape of any steam or water except for manually operated blowdown, shall be attached to a water column or the piping connecting a water column to a boiler for introduction of feedwater into a boiler. If the water column, gage glass, low-water fuel cutoff, or other water level control device is connected to the boiler by pipe and fittings, no shutoff valves of any type shall be placed in such pipe and a cross or equivalent fitting to which a drain valve and piping may be attached shall be placed in the water piping connection at every right angle turn to facilitate cleaning and inspection. The water column drain pipe and valve shall be not less than 3/4-inch diameter; and

(B) The steam connections to the water column of a horizontal firetube wrought boiler shall be taken from the top of the shell or the upper part of the head, and the water connection shall be taken from a point not above the center line of the shell. For a cast-iron boiler,

the steam connection to the water column shall be taken from the top of an end section or the top of the steam header, and the water connection shall be made on an end section not less than six (6) inches below the bottom connection to the water-gage glass;

(4) Pressure control. The following shall apply to pressure control:

(A) Each automatically fired steam boiler shall be protected from overpressure by two pressure-operated controls. Each individual steam boiler or each system of commonly connected steam heating boilers shall have a control that will cut off the fuel supply when the steam pressure reaches an operating limit, which shall be less than the maximum allowable pressure;

(B) Each individual automatically fired steam boiler shall have a safety limit control, with a manual reset that will cut off the fuel supply to prevent steam pressure from exceeding the fifteen (15) psig maximum allowable working pressure of the boiler. Each control shall be constructed to prevent a pressure setting above fifteen (15) psig; [~~and~~]

(C) Shutoff valves of any type shall not be placed in the steam pressure connection between the boiler and the controls described in subparagraphs (A) and (B). These controls shall be protected with a siphon or equivalent means of maintaining a water seal that will prevent steam from entering the control. The connections to the boiler shall not be less than NPS 1/4[~~,~~] for lengths up to five (5) feet, but where steel or wrought iron pipe or tubing is used, they shall not be less than NPS 1/2[~~.~~] for lengths up to five (5) feet, and not less than NPS 1 for lengths over five

(5) feet. The minimum size of an external siphon shall be NPS 1/4 or 3/8 inch outside diameter nonferrous tubing. For manifold connections, the minimum size shall be as specified in the original code of construction; and

(D) Pressure controls should have separate connections, however, manifolding is permitted. When multiple pressure controls are connected to the boiler with a common manifold, the connection at the boiler up to and including the entire manifold, for pipe of nonferrous material, shall not be less than NPS 1/2 for lengths up to five (5) feet, and not less than NPS 3/4 for lengths over five (5) feet. For manifolds using ferrous material, the connection at the boiler up to and including the entire manifold shall not be less than NPS 3/4 for lengths up to five (5) feet, and not less than NPS 1-1/4 for lengths over five (5) feet. Individual controls are to be piped from the manifold according to the provisions of subparagraph (C);

(5) Automatic low-water fuel cutoff and water feeding devices. The following shall apply to automatic low-water fuel cutoff and water feeding devices:

(A) Each automatically fired steam [~~or vapor system~~] boiler shall have an automatic low-water fuel cutoff. The low-water fuel cutoffs must be [~~so~~] located [~~as~~] to automatically cut off the fuel supply when the surface of the water falls to [~~the lowest visible part of the water-gage glass~~] a level not lower than the lowest visible part of the water-gage glass. If a water feeding device is installed, it shall be so constructed that the water inlet valve cannot feed water into the boiler through the float

chamber and so located as to supply requisite feedwater;

(B) Such a fuel cutoff or water feeding device may be attached directly to a boiler. A fuel cutoff or water feeding device may also be installed in the tapped openings available for attaching a water glass directly to a boiler, provided the connections are made to the boiler with nonferrous tees or Y fittings not less than NPS 1/2 between the boiler and water glass so that the water glass is attached directly and as close as possible to the boiler; the run of the tee or Y-fitting shall take the water glass fittings, and the side outlet or branch of the tee or Y-fittings shall take the fuel cutoff or water feeding device. The ends of all nipples shall be reamed to full-size diameter;

(C) In addition to the requirements in subparagraphs (A) and (B), a secondary low-water fuel cutoff with manual reset shall be provided on each automatically fired steam [~~or vapor system~~] boiler; and

(D) Fuel cutoffs and water feeding devices embodying a separate chamber shall have a vertical drain pipe and a blowoff valve not less than NPS 3/4, located at the lowest point in the water equalizing pipe connections so that the chamber and the equalizing pipe can be flushed and the device tested.

(b) Hot-water heating or hot-water supply boilers. The following shall apply to hot-water heating or hot-water supply boilers:

(1) Pressure or altitude gages:

(A) Each hot-water heating or hot-water supply boiler shall have a pressure or altitude gage connected to it or to its flow connection in such a manner that it

cannot be shut off from the boiler except by a cock with tee or lever handle, placed on the pipe near the gage. The handle of the cock shall be parallel to the pipe in which it is located when the cock is open;

(B) The scale on the dial of the pressure or altitude gage shall be graduated approximately to not less than one and a half (1-1/2) nor more than three and a half (3-1/2) times the pressure at which the safety relief valve is set; and

(C) Piping or tubing for pressure or altitude gage connections shall be of nonferrous metal when smaller than NPS 1;

(2) Thermometers: each hot-water heating or hot-water supply boiler shall have a thermometer so located and connected that it shall be easily readable. The thermometer shall be so located that it shall always indicate the temperature of the water in the boiler at or near the outlet;

(3) Temperature controls. Each automatically fired hot-water heating or hot-water supply boiler shall be protected from over-temperature by two temperature-operated controls. The following shall apply to automatically fired hot-water heating and hot-water supply boilers:

(A) Each individual hot-water heating or hot-water supply boiler or each system of commonly connected heating boilers shall have [~~a~~] at least one control that will cut off the fuel supply when the water temperature reaches an operating limit, which shall be less than the maximum allowable temperature; and

(B) Each individual automatically fired hot-water heating or hot-water supply boiler shall have a safety limit control with manual reset that will cut off the fuel supply to prevent the water temperature

from exceeding the maximum allowable temperature at the boiler outlet; [~~and~~]

(C) Each operating and safety limit control shall have its own sensing element and operating switch; and

(D) Alternately, integrated controls with multiple sensors may be used to meet the requirements of subparagraphs (A) and (B);

(4) Low-water fuel cutoff. The following shall apply to automatically fired hot-water heating boilers:

(A) Each automatically fired hot-water heating boiler shall have an automatic low-water fuel cutoff with manual reset. The low-water fuel cutoff shall be designed for hot-water service, and it shall be so located as to automatically cut off the fuel supply when the surface of the water falls to the level established in subparagraph (B);

(B) As there is no normal waterline to be maintained in a hot-water boiler, any location of the low-water fuel cutoff above the lowest safe permissible water level established by the boiler manufacturer is satisfactory;

(C) In lieu of the requirements for low-water fuel cutoffs in subparagraph (A), heating boilers requiring forced circulation to prevent overheating of the tubes, coils, or vessel, shall have an accepted flow-sensing or temperature-sensing device to prevent burner operation at a flow rate inadequate to protect the boiler unit against overheating at all allowable firing rates. This safety control(s) shall shut down the burner and prevent restarting until an adequate flow is restored and shall be independent of all other controls; and

(D) A means shall be provided for testing the operation of the external low-water fuel cutoff without resorting to draining the entire system. Such means shall not render the device inoperable except as follows: if the means temporarily isolates the device from the boiler during this testing, it shall automatically return to its normal position. The connection may be so arranged that the device cannot be shut off from the boiler except by a cock placed at the device and provided with a tee or lever-handle arranged to be parallel to the pipe in which it is located when the cock is open;

(c) Potable water heaters. The following shall apply to potable water heaters:

(1) Temperature controls. The following shall apply to the temperature controls of potable water heaters:

(A) Each individual automatically fired water heater, in addition to the operating control used for normal water heater operation, shall have a separate high limit temperature actuated combustion control that will automatically cut off the fuel supply. The temperature range of the high limit temperature actuated control shall not allow a setting over 210 degrees Fahrenheit;

(B) Gas-fired water heaters: the high limit temperature control when actuated shall shut off the fuel supply with a shutoff means other than the operating control valve. Separate valves may have a common body;

(C) Electrically heated water heaters: the high limit temperature control when

actuated shall cut off all power to the operating controls;

(D) Oil-fired water heaters: the high limit temperature control when actuated shall cut off all current flow to the burner mechanism; and

(E) Indirect water heating systems: the high limit temperature control when activated shall cut off the source of heat;

(2) Pressure or altitude gages. The following shall apply to pressure or altitude gages:

(A) Each potable water heater shall have a pressure or altitude gage connected to it or to its flow connection in such a manner that it cannot be shut off from the boiler except by a cock with tee or lever handle placed on the pipe near the gage. The handle of the cock shall be parallel to the pipe in which it is located when the cock is open;

(B) The scale on the dial of the pressure or altitude gage shall be graduated approximately to not less than one and a half (1-1/2) nor more than three (3) times the maximum allowable working pressure; and

(C) Piping or tubing for pressure or altitude gage connections shall be of nonferrous metal when smaller than 1-inch pipe size;

(3) Thermometers: each installed water heater shall have a thermometer so located and connected that it shall be easily readable. The thermometer shall be so located that it shall always indicate the temperature of the water in the water heater at or near the outlet; and

(4) Flow-sensing device: potable water heaters requiring forced circulation to prevent overheating of the tubes, coils, or vessel

should have an acceptable flow-sensing device or temperature-sensing device to prevent burner operation at a flow rate inadequate to protect the water heater unit against overheating at all allowable firing rates. This safety controls shall shut down the burner and prevent restarting until an adequate flow is restored and shall be independent of all other controls. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-8 Modular steam heating, modular hot-water heating boilers, and modular water heaters. (a) Individual modules. The following shall apply to individual modules:

(1) The individual modules shall comply with all the requirements of the code of construction[~~.~~] and this subsection. The individual modules shall be limited to a maximum input of 400,000 Btu per hour (117 kw/hr) for gas, 3 gallons/hour (11.4 l/hr) for oil, or 117 kw for electricity;

(2) Each module of a modular steam heating boiler shall be equipped with a:
   (A) Safety valve, see section 12-223.1-9(a)(1);
   (B) Blowoff valve, see section 12-223.1-13(o)(1); and
   (C) Drain valve, see section 12-223.1-13(o)(2); and

(3) Each module of a modular hot-water heating boiler shall be equipped with a:
   (A) Safety relief valve, see section 12-223.1-9(a)(2); and
   (B) Drain valve, see section 12-223.1-13(o)(2).

(b) Assembled Modular Heating boilers. The following shall apply to assembled modular heating boilers:

(1) The individual modules shall be manifolded together at the job site without any intervening valves;

(2) The assembled modular steam heating boiler shall also be equipped with a:

(A) Feedwater connection, see Exhibit 5, titled, "Steam Boilers in Battery - Pumped Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and [~~6.~~] Exhibit 6, titled, "Steam Boilers in Battery - Gravity Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter; and

(B) Return pipe connection, see Exhibit 5, titled, "Steam Boilers in Battery - Pumped Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and 6[~~.~~], titled, "Steam Boilers in Battery - Gravity Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter; and

(3) The assembled modular hot-water boiler shall also be equipped with a:

(A) Makeup water connection, see Exhibit 7[~~.~~], titled, "Hot Water Boilers in Battery Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter;

(B) Provision for thermal expansion, see Exhibit 7, titled, "Hot Water Boilers in Battery Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and Exhibit 8[~~.~~], titled, "Expansion Tank Capacities for

Gravity Hot-Water Systems", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter; and

(C) Stop valves[~~, see Exhibit [7]6 (treating the assembled modular boiler as a single unit).~~] (treating the assembled modular boiler as a single unit), see Exhibit 7, titled,"Hot Water Boilers in Battery Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter.

(c) Modular hot-water heating boilers. The following shall apply to modular hot-water heating boilers:

(1) Each module of a modular hot-water heating boiler shall be equipped with a:

(A) Pressure or altitude gage, see section 12-223.1-7(b)(1);

(B) Thermometer, see section 12-223.1-7(b)(2); and

(C) Temperature control, see section 12-223.1-7(b)(3)(A); and

(2) The assembled modular hot-water heating boiler shall be equipped with a:

(A) Temperature control, see 12-223.1-7(b)(3)(B); and

(B) Low-water fuel cutoff, see 12-223.1-7(b)(4).

(d) Modular steam heating boilers. The following shall apply to modular steam heating boilers:

(1) Each module of a modular steam boiler shall be equipped with a:

(A) Steam gage, see section 12-223.1-7(a)(1);

(B) Water-gage glass, see section 12-223.1-7(a)(2);

(C) Pressure control, see section 12-223.1-7(a)(4)(A); and

(D) Low-water cutoff, see section 12-223.1-7(a)(5); and

(2) The assembled modular steam heating boiler shall also be equipped with a pressure control, see section 12-223.1-7(a)(4)(B).

(e) Modular water heaters. The individual modules shall comply with all the requirements of the code of construction and this paragraph. Each module of a modular water heater shall be equipped with a:

(1) Safety relief valve, see section 12-223.1-9(a)(3);
(2) Drain valve, see section 12-223.1-13(o)(2);
(3) Pressure or altitude gage, see section 12-223.1-7(c)(2);
(4) Thermometer, see section 12-223.1-7(c)(3);
(5) Temperature control, see section 12-223.1-7(c)(1); and
(6) Flow-sensing device, see section 12-223.1-7(c)(4).

(f) Assembled modular water heaters having an aggregate input value greater than 200,000 Btu per hour or aggregate water containing capacity greater than 120 gallons. The individual modules shall be manifolded together at the job site with or without any intervening valves. The assembled modular potable water heater shall be equipped with a:

(1) Safety relief valve, see section 12-223.1-9(a)(3);
(2) Drain valve, see section 12-223.1-13(o)(2);
(3) Pressure/altitude gage, see 12-223.1-7(c)(2);
(4) Thermometer, see section 12-223.1-7(c)(3);
(5) Temperature control, see section 12-223.1-7(c)(1); and
(6) Flow-sensing device, see 12-223.1-7(c)(4).

[Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-223.1-9 Pressure relief valves for steam heating, hot-water heating, hot-water supply boilers, and potable water heaters. Pressure relief valves for steam heating, hot-water heating, hot-water supply boilers, and potable water heaters shall be ASME and NB certified and marked with the ASME certification mark

and "HV" designator, and National Board "NB" symbols. The following shall apply to these objects:

(1) Pressure relief valve requirements for steam heating boilers shall include the following:

(A) Pressure relief valves shall be manufactured in accordance with a national or international standard;

(B) Each steam boiler shall have one or more NB capacity certified pressure relief valves of the spring pop type adjusted and sealed to discharge at a pressure not to exceed fifteen (15) psig;

(C) No pressure relief valve for a steam boiler shall be smaller than NPS 1/2. No pressure relief valve shall be larger than NPS 4. The inlet opening shall have an inside diameter equal to or greater than the seat diameter;

(D) The minimum valve capacity in lbs./hr. shall be the greater of that determined by dividing the maximum Btu per hour output at the boiler nozzle obtained by the firing of any fuel for which the unit is installed by 1,000 Btu per hour/lbs., or shall be determined based on the lbs. of steam/hr/square feet of boiler heating surface. For cast iron heating boilers, the minimum valve capacity shall be determined by the maximum output method. In many cases a greater relieving capacity of valves will have to be provided than the minimum specified in this chapter (see Exhibit [~~10).~~] 9, titled, "Minimum Pounds of Steam Per Hour Per Square Foot of Heating Surface", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter. In every case the requirements of subparagraph (E) shall be met;

(E) The pressure relief valve capacity for each steam boiler shall be such that with the fuel burning equipment

installed, and operated at maximum capacity, the pressure cannot rise more than five (5) psig above the maximum allowable working pressure; and

(F) When operating conditions are changed, or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and be in accordance with section 12-223.1-9(a)(2)(G). The additional valves required, because of changed conditions, may be installed on the outlet piping provided there is no intervening valve; and

(2) Pressure relief valve requirements for hot-water heating or hot-water supply heating boilers shall include the following:

(A) Each hot-water heating or hot-water supply boiler shall have at least one NB capacity certified pressure relief valve, of the automatic reseating type set to relieve at or below the maximum allowable working pressure of the boiler;

(B) Hot-water heating or hot-water supply heating boilers limited to a water temperature not more than 210 degrees Fahrenheit may have, in lieu of the valve(s) specified in subparagraph(A), one or more NB capacity certified temperature and pressure relief valves of the automatic reseating type set to relieve at or below the maximum allowable working pressure of the boiler;

(C) When more than one pressure relief valve is used on either hot-water heating or hot-water supply heating boilers, the additional valves shall be NB capacity certified and may have a set pressure within a range not to exceed six (6) psig above the maximum allowable working pressure of the boiler up to and

including sixty (60) psig, and five per cent (5%) for those having a maximum allowable working pressure exceeding sixty (60) psig;

(D) No pressure relief valve shall be smaller than NPS 3/4 nor larger than NPS 4, except that heating boilers having a heat input not greater than 15,000 Btu per hour should be equipped with a rated pressure relief valve of NPS 1/2;

(E) The required relieving capacity, in lbs./hr, of the pressure relief device or devices on a boiler shall be the greater of that determined by dividing the maximum output in Btu per hour at the boiler nozzle obtained by the firing of any fuel for which the unit is installed by 1,000 Btu per hour/lb., or shall be determined on the basis of lbs. steam/hr/square feet as given in Exhibit 9[~~.~~] titled, "Minimum Pounds of Steam Per Hour Per Square Foot of Heating Surface", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter. For cast iron heating boilers, the minimum valve capacity shall be determined by the maximum output method. In many cases a greater relieving capacity of valves will have to be provided than the minimum specified in this chapter. In every case the requirements of subparagraph (G) shall be met;

(F) When operating conditions are changed, or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and shall be in accordance with NBIC Part 1. The additional valves required, on account of changed conditions, may be installed on the outlet piping provided there is no intervening valve; and

(G) Pressure relief valve capacity for each boiler with a single pressure relief valve shall be such that, with the fuel burning equipment installed and operated at maximum capacity, the pressure cannot rise more than ten per cent (10%) above the maximum allowable working pressure. When more than one pressure relief valve is used, the over pressure shall be limited to ten per cent (10%) above the set pressure of the highest set valve; and

(3) Pressure relief valve requirements for potable water heaters shall include the following:

(A) Each water heater shall have at least one NB capacity certified temperature and pressure relief valve. No temperature and pressure relief valve shall be smaller than NPS 3/4;

(B) Pressure relief valves for potable water heaters shall be ASME and NB certified marked with the ASME certification mark and "HV" designator, and National Board "NB" symbols;

(C) The pressure setting shall be less than or equal to the maximum allowable working pressure of the water heater. However, if any of the other components in the hot-water supply system (such as valves, pumps, expansion, storage tanks, or piping) have a lesser working pressure rating than the water heater, the pressure setting for the temperature and pressure relief valve(s) shall be based upon the component with the lowest maximum allowable working pressure rating. If more than one temperature and pressure relief valve is used, the additional valve(s) may be set within a range not to exceed ten per cent (10%) over the set pressure of the first valve;

(D) The required relieving capacity in Btu per hour of the temperature and pressure relief valve shall not be less than the maximum allowable input unless the water heater is marked with the rated burner input capacity of the water heater on the casing in a readily visible location, in which case the rated burner input capacity may be used as a basis for sizing the temperature pressure relief valves. The relieving capacity for electric water heaters shall be 3,500 Btu per hour per kw of input;

(E) The relieving capacity for electric water heaters shall be 3,500 Btu per hour (1.0 kw) per kw of input. In every case, the temperature and pressure relief valve capacity for each water heater shall be such that with the fuel burning equipment installed and operated at maximum capacity, the pressure cannot rise more than ten per cent (10%) above the maximum allowable working pressure;

(F) Many temperature and pressure relief valves have a NB capacity certified rating which was determined according to ASME BPVC requirements, and a lower Canadian Standards Association (CSA) rating value. Where the ASME BPVC is the only referenced code of construction the NB capacity certified rating may be used; and

(G) If operating conditions are changed or additional heating surface is installed, the temperature and pressure relief valve capacity shall be increased, if necessary, to meet the new conditions and shall be in accordance with the above provisions. In no case shall the increased input capacity exceed the maximum allowable input capacity. The additional valves required, because of changed conditions, may be installed on

the outlet piping providing there is no intervening valve. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-223.1-10 Acceptable installation of pressure relief valves for steam heating, hot-water heating, hot-water supply boilers. The following shall apply to the installation of pressure relief valves for steam heating, hot-water heating, and hot-water supply boilers:

(1) Pressure relief valves shall be located at the top side of the boiler. The top side of the boiler shall mean the highest practicable part of the boiler proper but in no case shall the safety valves be located below the normal operating level and in no case shall the pressure relief valve be located below the lowest permissible water level. They shall be connected directly to a tapped or flanged opening in the boiler, to a fitting connected to the boiler by a short nipple, to a Y-base, or to a valveless header connecting steam or water outlets on the same boiler. Coil or header type heating boilers shall have the pressure relief valve located on the steam or hot-water outlet end. Pressure relief valves shall be installed with their spindles vertical. The opening or connection between the boiler and any pressure relief valve shall have at least the area of the valve inlet;

(2) When a boiler is fitted with two or more pressure relief valves on one connection, this connection shall have a cross-sectional area not less than the combined areas of inlet connections of all the pressure relief valves with which it connects;

(3) When a Y-base is used, the inlet area shall be not less than the combined outlet areas. When the size of the boiler requires a

pressure relief valve larger than NPS 4, two or more valves having the required combined capacity shall be used. When two or more valves are used on a boiler, they may be single, directly attached, or installed on a Y-base;

(4) A threaded connection may be used for attaching a valve;

(5) Pressure relief valves shall not be connected to an internal pipe in the boiler;

(6) No shutoff valve of any description shall be placed between the pressure relief valve and the boiler or on discharge pipes between such valves and the atmosphere;

(7) A discharge pipe shall be used. It shall be not less than the nominal size of the valve outlet. Where multiple valves relieve into a common discharge pipe, the cross-sectional flow area of the common discharge pipe shall be equal to or greater than the sum of the individual temperature and pressure relief valve discharge pipe areas. Discharge pipes shall be securely anchored and supported, as short and straight as possible and arranged as to avoid undue stress on the valve or valves. A union may be installed in the discharge piping close to the valve outlet. When an elbow is placed on a pressure relief valve discharge pipe, it shall be located close to the valve outlet downstream of the union to minimize reaction moment stress;

(8) The discharge from pressure relief valves shall be so arranged that there will be no danger of scalding attendants. The pressure relief valve discharge shall be piped away from the boiler to a safe point of discharge, and there shall be provisions made for properly draining the piping. The size and arrangement of discharge piping shall be such that any pressure that may exist or develop will not reduce the relieving capacity of the relieving devices below that required to protect the boiler; and

(9) Hot-water heating or hot-water supply heating boilers limited to a water temperature of 210 degrees Fahrenheit may have one or more NB capacity certified temperature and pressure relief valve(s) installed. The requirements of paragraphs (1) through (8) shall be met, except as follows:

(A) A Y-type fitting shall not be used; and

(B) If additional valves are used, they shall be temperature and pressure relief valves, and when the temperature and pressure relief valve is installed directly on the boiler with no more than four (4) inches maximum interconnecting piping, the valve may be installed in the horizontal position with the outlet pointed down. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

12-223.1-11 Acceptable installation of temperature and pressure relief valves for potable water heaters. The following shall apply to the installation of temperature and pressure relief valves for potable water heaters:

(1) Temperature and pressure relief valves shall be installed by either the [~~installer or the manufacturer~~] water heater manufacturer or installer before a water heater is placed in operation;

(2) Temperature and pressure relief valves shall be connected directly to a tapped or flanged opening in the top of the water heater, [~~to a fitting connected to the water heater by a short nipple, to a Y-base, or to a valve-less header connecting water outlets on the same heater;~~] or to a fitting connected to the water heater by a short nipple;

(3) Temperature and pressure relief valves shall be installed with their spindles upright and vertical with no horizontal connecting pipe,

except [~~that,~~] when the temperature and pressure relief valve is [~~installed~~] connected directly on the water heater vessel with no more than four (4) inches maximum interconnecting piping, the valve may be installed in the horizontal position with the outlet pointed down. The center line of the temperature and pressure relief valve connection shall be no lower than four (4) inches from the top of the shell;

(4) No piping or fitting used to install the temperature and pressure relief valve shall be of nominal pipe size less than that of the valve inlet;

(5) When a potable water heater is fitted with two or more temperature and pressure relief valves on one connection, this connection shall have a cross-sectional area not less than the combined areas of inlet connections of all the temperature and pressure release valves with which it connects;

(6) When a Y-base is used, the inlet area shall be not less than the combined outlet areas;

(7) When the size of the water heater requires a temperature and pressure relief valve larger than NPS 4 two or more valves having the required combined capacity shall be used;

(8) When two or more valves are used on a water heater, they may be single, directly attached, or installed on a Y-base;

(9) A threaded connection may be used for attaching a temperature and pressure relief valve;

(10) Temperature and pressure relief valves shall not be connected to an internal pipe in the water heater or a cold-water feed line connected to the water heater;

(11) No shutoff valve of any description shall be placed between the temperature and pressure relief valve and the water heater or on discharge pipes between such valves and the atmosphere; and

(12) The discharge from temperature and pressure relief valves shall be so arranged that there will be no danger of scalding attendants. When the temperature and pressure relief valve discharge is piped away from the water heater to the point of discharge, there shall be provisions for properly draining the piping and valve body. The size and arrangement of discharge piping shall be such that any pressure that may exist or develop will not reduce the relieving capacity of the relieving devices below that required to protect the water heater. The following shall apply to discharge pipes:

(A) When a discharge pipe is used, it shall be not less than the nominal size of the valve outlet, and shall be as short and straight as possible, properly supported and so arranged as to avoid undue stress on the valve. When an elbow is placed on a temperature and pressure relief discharge pipe, it shall be located close to the valve outlet; [~~and~~]

(B) Where multiple valves relieve into a common discharge pipe, the cross-sectional flow area of the common discharge pipe shall be equal to or greater than the sum of the individual temperature and pressure relief valve discharge pipe areas[~~.~~];

(C) Discharge piping shall be rated for the discharge fluid conditions of pressure and temperature including a minimum and maximum design temperature. Material selection for the discharge piping shall consider the reduction in material toughness at the low end of design temperature and the reduction in material strength at the high end of design temperature. Rigid pipe or tubing should be used for discharge lines that carry hot water or steam;

(D) Plastic discharge pipe and fittings are permitted (when compatible with the process fluid, system design temperatures, and other ambient conditions such as light and humidity) and shall conform to NSF/ANSI 14 Plastics Piping System Components and Related Materials; and

(E) Discharge piping shall be rated for any static pressure present and the back pressure that may develop when the pressure relief device is at full capacity. Where multiple pressure relief devices or vents discharge into common piping, the back pressure that could develop due to simultaneous flow from all sources shall be considered. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§**12-223.1-12 Heating boiler room and operating area.** (a) The following shall apply to the care of heating boiler rooms:

(1) The heating boiler room shall be free from accumulation of rubbish, and materials that obstruct access to the boiler, its setting, or firing equipment;

(2) The storage of flammable material or gasoline-powered equipment in the heating boiler room is prohibited;

(3) The roof over heating boilers designed for indoor installations shall be free from leaks and maintained in good condition;

(4) All exit doors shall open outward; and

(5) It is recommended that the ASME BPVC Section VI, covering the care and operation of heating boilers be used as a guide for proper and safe operating practices.

(b) Foundation, supports, and settings. Each heating boiler, potable water heater, and thermal fluid

heater and its associated piping must be safely supported. Design of supports, foundations, and settings shall consider vibration (including seismic where necessary), movement (including thermal expansion and contraction), grounding/bonding to minimize electrolytic corrosion, and loadings (including the weight of the fluid in the system during a pressure test) in accordance with jurisdictional requirements, manufacturers recommendations, and other industry standards, as applicable.

(c) Exit. Two means of exit shall be provided for equipment rooms exceeding 500 square feet of floor area and containing one or more heating boilers, potable water heaters, or thermal fluid heaters having a combined fuel capacity of 1,000,000 Btu per hour or more[.] (or equivalent electrical heat input). Each elevation shall be provided with at least two means of exit, each to be remotely located from the other. A platform at the top of a single heating boiler is not considered an elevation.

(d) The following shall apply to ladders and runways:

(1) All walkways, runways, and platforms shall be of metal construction or equivalent material;

(2) Provided between or over the top of heating boilers that are more than eight (8) feet above the operating floor to afford accessibility for normal operation, maintenance, and inspection;

(3) Constructed of safety treads, standard grating, or similar material and have a minimum width of thirty (30) inches of bolted, welded, or riveted construction, and equipped with handrails forty-two (42) inches high with an intermediate rail and four (4) inches toe board; and

(4) Stairways that serve as a means of access to walkways, runways, or platforms shall not exceed an angle of forty-five (45) degrees from the horizontal and be equipped with handrails forty-two (42) inches high with an intermediate rail.

(e) Drains. At least one floor drain shall be installed in the equipment room. Drains receiving blowdown water should be connected to the sanitary sewer by way of an acceptable blowdown tank or separator or an air gap that will allow the blowdown water to cool to at least 140 degrees Fahrenheit and reduce the pressure to five (5) psig or less.

(f) Water. The following shall apply to water:

(1) A means to add water to or fill the boiler, while not under pressure, shall be provided. A valve or threaded plug may be used to shut off the fill connection when the boiler is in service;

(2) Water fill connections shall be installed. A means shall be provided at or near the boiler to prevent back-feeding. Such means shall be rated for the boiler design pressure and temperature; and

(3) Provision should also be made in every equipment room for a convenient water supply that can be used to flush out the boiler and to clean the equipment room floor. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-223.1-13 Operating systems. (a) Feedwater.

(1) Steam heating boilers. Feedwater or water treatment shall be introduced into a boiler through the return piping system. Alternatively, feedwater or water treatment shall be introduced through an independent connection. A cross or equivalent fitting shall be placed in the water piping connection at every right angle turn to facilitate cleaning and inspection. The water flow from the independent connection shall not discharge directly against parts of the boiler exposed to direct radiant heat from the fire. Feedwater or water treatment shall not be introduced through openings or connections provided for inspection or

cleaning, safety valve, water column, water-gage glass, or pressure gage. The feedwater pipe shall be provided with a check valve, or a backflow preventer containing a check valve, near the boiler and a stop valve or cock between the check valve and the boiler, or between the check valve and the return pipe system;

(2) Hot-water heating boilers. Makeup water may be introduced into a boiler through the piping system or through an independent connection. The water flow from the independent connection shall not discharge directly against parts of the boiler exposed to direct radiant heat from the fire. Makeup water shall not be introduced through openings or connections provided exclusively for inspection or cleaning, safety relief valve, pressure gage, or temperature gage. The makeup water pipe shall be provided with a check valve, or a backflow preventer containing a check valve, near the boiler and a stop valve or cock between the check valve and the boiler, or between the check valve and the piping system; and

(3) The following shall apply to potable water heaters:

(A) Water supply shall be introduced into a water heater through an independent water supply connection. Feedwater shall not be introduced through openings or connections provided for cleaning, safety relief valves, drain, pressure gage, or temperature gage; and

(B) If the water supply pressure to a water heater exceeds seventy-five per cent (75%) of the set pressure of the safety relief valve, a pressure reducing valve is required.

(b) Stop valves. Stop valves shall conform with the applicable portions of an acceptable code of construction and may be ferrous or nonferrous. The minimum pressure rating of all stop valves shall be at

least equal to the pressure stamped upon the boiler, and the temperature rating of such stop valves shall be not less than 250 degrees Fahrenheit.

(1) The following shall apply to steam heating, hot-water heating, and hot-water supply boilers:

(A) When a stop valve is used in the supply pipe connection of a single steam boiler, there shall be one installed in the return pipe connection;

(B) Stop valves for single hot-water heating and hot-water supply heating boilers shall be located at an accessible point in the supply and return pipe connections as near to the boiler as possible, to permit draining the boiler without emptying the system; and

(C) Stop valves shall be used in each supply and-return pipe connection for boiler installations of two or more heating boilers connected to a common system; and

(2) Potable water heaters. Stop valves shall be installed in the supply and discharge pipe connections of a water heater installation to permit draining the water heater without emptying the system.

(c) Fuel. Fuel systems shall be installed in accordance with jurisdictional and environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(d) Electrical. The following shall apply to steam heating, hot-water heating, and hot-water supply boilers:

(1) All wiring for controls, heat generating apparatus, and other appurtenances necessary for the operation of the heating boilers shall be installed in accordance with the provisions of national or international standards and shall comply with the applicable local electrical codes;

(2) A disconnecting means capable of being locked in the open position shall be installed at an

accessible location at the boiler so that the boiler can be disconnected from all sources of potential. This disconnecting means shall be an integral part of the boiler or adjacent to it;

(3) A manually operated remote shutdown switch or circuit breaker shall be located just outside the equipment room door and marked for easy identification. Consideration should also be given to the type and location of the switch to safeguard against tampering;

(4) If the equipment room door is on the building exterior, the shutdown switch should be located just inside the door. If there is more than one door to the equipment room, there shall be a shutdown switch located at each door of egress;

(5) For atmospheric-gas burners, and oil burners where a fan is on a common shaft with the oil pump, the complete burner and controls should be shut off; and

(6) For power burners with detached auxiliaries, only the fuel input supply to the firebox need be shut off.

(e) Potable water heaters. The following shall apply to potable water heaters:

(1) All wiring for controls, heat generating apparatus, and other appurtenances necessary for the operation of the potable water heaters shall be installed in accordance with the provisions of national or international standards and comply with the applicable local electrical codes;

(2) A disconnecting means capable of being locked in the open position should be installed at an accessible location at the heater so that the heater can be disconnected from all sources of potential. This disconnecting means shall be an integral part of the heater or adjacent to it;

(3) For atmospheric-gas burners, and oil burners where a fan is on a common shaft with the oil

pump, the complete burner and controls should be shut off; [~~and~~]

(4) For power burners with detached auxiliaries, only the fuel input supply needs be shut off[~~.~~];

(5) A manually operated remote shutdown switch or circuit breaker shall be located just outside the equipment room door and marked for easy identification. Consideration should also be given to the type and location of the switch to safeguard against tampering; and

(6) If the equipment room door is on the building exterior, the switch should be located just inside the door. If there is more than one door to the equipment room, there should be a switch located at each door of egress.

(f) Controls and heat generating apparatus. The following shall apply to controls and heat generating apparatus:

(1) Oil and gas-fired and electrically heated heating boilers and water heaters shall be equipped with suitable primary (flame safeguard) safety controls, safety limit controls, and burners or electric elements as required by a nationally or internationally recognized standard;

(2) The symbol of the certifying organization that has investigated such equipment as having complied with a nationally recognized standard shall be affixed to the equipment and shall be considered as evidence that the unit was manufactured in accordance with that standard; and

(3) These devices shall be installed in accordance with jurisdictional and environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(g) Ventilation and combustion air. The following shall apply to ventilation and combustion air:

(1) The equipment room shall have an adequate air to permit clean, safe combustion, minimize soot formation, and maintain a minimum of

nineteen and a half per cent (19.5%) oxygen in the air of the equipment room and sufficient to maintain ambient temperatures as recommended by the boiler, heater, or vessel manufacturer[~~. The combustion and ventilation air should be supplied by either an unobstructed air opening or by power ventilation or fans. When combustion air is supplied to the boiler by an independent duct, with or without the employment of power ventilators or fans, the duct shall be sized and installed in accordance with the manufacturer's recommendations. However, ventilation for the equipment room must still be considered~~];

(2) When combustion air is supplied to the boiler, heater, or vessel by an independent duct, with or without the employment of power ventilators or fans, the duct shall be sized and installed in accordance with the manufacturer's recommendations. However, ventilation for the equipment room must still be considered;

(3) Unobstructed air openings shall be sized based on the manufacturer's recommendations, or as specified by the National Fire Protection Association (NFPA) standards for oil and gas burning installations for the particular job conditions, or one (1) square inch of free area per 2000 Btu per hour (586 W) maximum fuel input of the combined burners located in the equipment room. The equipment room supply openings shall be kept clear at all times;

(4) Power ventilators or fans shall be sized based on 0.2 cfm for each 1000 Btu per hour (293 W) of maximum fuel input for the combined burners of all heating boilers and heaters located in the equipment room. Additional capacity may be required for other fuel burning equipment in the equipment room;

(5) When power ventilators or fans are used to supply combustion air, they shall be

installed with interlock devices so that burners will not operate without an adequate number of ventilators/fans in operation;

(6) When power ventilators or fans are used to supply combustion air, they shall be installed with interlock devices so that burners will not operate without an adequate number of ventilators/fans in operation;

(7) The size of openings specified in paragraph (3) may be reduced when special engineered air supply systems approved by the [~~jurisdiction~~] department are used; and

(8) Care should be taken to ensure that steam, water and fluid lines are not routed across combustion air openings, where freezing may occur.

(h) Breeching and dampers. Breeching and dampers shall be installed in accordance with jurisdictional and environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(i) Burners and stokers. Burners and stokers shall be installed in accordance with jurisdictional and environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(j) Lighting. The equipment room shall be well-lit and have an emergency light source for use in the case of a power failure.

(k) Emergency valves and controls. All emergency shut-off valves and controls shall be accessible from a floor, platform, walkway, or runway. Accessibility shall mean within a six (6) feet elevation of the standing space and not more than twelve (12) inches horizontally from the standing space edge.

(l) Chimney or stack. Chimneys or stacks shall be installed in accordance with [~~jurisdictional and environmental~~] the department's requirements, manufacturer's recommendations, and industry standards, as applicable.

(m) Ash removal. Ash removal systems shall be installed in accordance with jurisdictional and environmental requirements, manufacturer's recommendations, and industry standards, as applicable.

(n) Return pipe connections. The following shall apply to return pipe connections:

(1) The return pipe connections of each boiler supplying a gravity return steam heating system shall be so arranged as to form a loop so that the water in each boiler cannot be forced out below the safe water level; and

(2) Provision shall be made for cleaning the interior of the return piping at or close to the boiler. Washout openings should be used for return pipe connections and the washout plug placed in a tee or a cross so that the plug is directly opposite and as close as possible to the opening in the boiler.

(o) Bottom blowoff and drain valves. The following shall apply to bottom blowoff and drain valves of steam heating, hot-water heating, and hot-water supply heating boilers:

(1) Each steam boiler shall have a bottom blowoff connection fitted with a valve or cock connected to the lowest water space practicable with a minimum size as shown in the NBIC. The discharge piping shall be full size to the point of discharge. Heating boilers having a capacity of twenty-five (25) gallons or less are exempt from the above requirements, except that they shall have a NPS three-fourths (3/4) minimum drain valve;

(2) Each steam or hot-water boiler shall have one or more drain connections, fitted with valves or cocks connecting to the lowest water containing spaces. All parts of the boiler must be capable of being drained (the boiler design will dictate the number and size of drains). The minimum size of the drain piping, valves, and cocks shall be NPS 3/4. The discharge piping shall be full size to the point of discharge. When the blowoff connection is located at the lowest water containing space, a separate drain connection is not required; and

(3) The minimum pressure rating of valves and cocks used for blowoff or drain purposes

shall be at least equal to the pressure stamped on the boiler but in no case less than thirty (30) psig. The temperature rating of such valves and cocks shall not be less than 250 degrees Fahrenheit.

(p) Each potable water heater shall have a bottom drain pipe connection fitted with a valve or cock connected with the lowest water space practicable. The minimum size bottom valve shall be NPS three-fourths (3/4). Any discharge piping connected to the bottom drain connection shall be full size to the point of discharge.

(q) Provisions for thermal expansion of expansion tanks and piping for steam heating, hot-water heating, and hot-water supply heating boilers shall comply with the following:

(1) Expansion tanks for hot-water heating and hot-water supply heating boilers shall be installed so that all hot-water heating systems incorporating hot-water tanks or fluid relief columns prevent freezing under normal operating conditions;

(2) Heating systems with an open expansion tank shall have an indoor overflow from the upper portion of the expansion tank in addition to an open vent, the indoor overflow shall be carried within the building to a suitable plumbing fixture or drain;

(3) In closed heating systems an expansion tank shall be installed in a closed heating system that will be consistent with the volume and capacity of the system. If the system is designed for a working pressure of thirty (30) psig or less, the tank shall be suitably designed for a minimum hydrostatic test pressure of seventy-five (75) psig. Expansion tanks for systems designed to operate above thirty (30) psig shall be constructed in accordance with an acceptable code of construction. Provisions shall be made for draining the tank without emptying the system[~~; and~~] except for pressurized tanks. The minimum capacity of the closed-type

expansion tank should be determined from NBIC Part 1, Tables 3.7.9.1-a and 3.7.9.1-b or from the following formula where the necessary information available:

US Customary:

Vt = (0.00041T – 0.0466)Vs
(Pa/Pf) – (Pa/Po)

where,

Vt = minimum volume of tanks, gallons
Vs = volume of system, not including tanks, gallons
T = average operating temperature, °F
t1 = lower temperature
t2 = higher temperature
Pa = atmospheric pressure, psia
Pf = fill pressure, psia
Po = maximum operating pressure, psia

Metric:

Vt = (0.000738T – 0.3348)Vs
(Pa/Pf) – (Pa/Po)

where,

Vt = minimum volume of tanks, liters
Vs = volume of system, not including tanks, liters
T = average operating temperature, °C
Pa = atmospheric pressure, kPa
Pf = fill pressure, kPa
Po = maximum operating pressure, kPa; and

(4) Hot-water supply systems. If a system is equipped with a check valve or pressure-reducing valve in the cold-water inlet line, consideration should be given to the installation of an airtight expansion tank or other suitable air cushion. Otherwise, due to the thermal expansion of the water, the safety relief valve may lift periodically. If an expansion tank is provided, it shall be constructed in accordance with an acceptable code of construction. Except for pre-pressurized tanks, which should be installed on the cold-water side, provisions shall be made for draining the tank without emptying the system[.] (for a typical acceptable

installation see Exhibit 7, titled, "Hot Water Boilers in Battery Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter).

(r) Piping for steam heating, hot-water heating, and hot-water supply boilers. Provisions shall be made for the expansion and contraction of steam and hot water mains connected to boiler(s) so there will be no undue strain transmitted to the boiler(s)[~~.~~] (for typical schematic arrangements of piping incorporating strain absorbing joints for steam and hot-water heating boilers see Exhibit 5, titled, "Steam Boilers in Battery – Pumped Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, Exhibit 6, titled, "Steam Boilers in Battery – Gravity Return Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and Exhibit 7, titled, "Hot Water Boilers in Battery Acceptable Piping Installation", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter).

(s) Expansion tanks and piping for potable water heaters. The following shall apply to expansion tanks and piping for potable water heaters:

(1) If a system is equipped with a check valve or pressure-reducing valve in the cold-water inlet line, consideration should be given to the installation of an airtight expansion tank or other suitable air cushion. Otherwise, due to the thermal expansion of the water, the safety relief valve may lift periodically. If an expansion tank is provided, it shall be constructed in accordance with an acceptable code of construction. Except for pre-pressurized diaphragm-type tanks, which should be installed on the cold-water side, provisions shall be made for draining the tank without emptying the system; [~~and~~]

(2) Piping. Provisions shall be made for the expansion and contraction of hot water mains connected to potable water heater(s) so that there will be no undue stress transmitted to the potable water heater(s).

TABLE 3.7.9.1-a

EXPANSION TANK CAPACITIES FOR GRAVITY HOT-WATER SYSTEMS

Based on a two-pipe system with average operating water temperature 170°F (77°C), using cast-iron column radiation with heat emission rate 150 Btu/hr/ft² (473 W/m²) equivalent direct radiation.		
Installed Equivalent Direct Radiation, ft² (m²) (Note)	**No.**	**Tank Capacity, gallon (*l*)**
up to 350 (33)	1	18 (68)
up to 450 (42)	1	21 (79)
up to 650 (60)	1	24 (91)
up to 900 (84)	1	30 (114)
up to 1,100 (102)	1	35 (132)
up to 1,400 (130)	1	40 (151)
up to 1.600 (149)	2	60 (227)
up to 1,800 (167)	2	60 (227)
up to 2,000 (186)	2	70 (265)
up to 2,400 (223)	2	80 (303)

Note:

For systems with more than 2,400 ft² (223 m²) of installed equivalent direct water radiation, the required capacity of the cushion tank shall be increased on the basis of 1 gallon (3.79 l) tank capacity/33 ft² (3.1 m²) of additional equivalent direct radiation.

TABLE 3.7.9.1-b

EXPANSION TANK CAPACITIES FOR FORCED HOT-WATER SYSTEMS

Based on average operating water temperature 195°F [91°C], fill pressure 12 psig [83 kPa], and maximum operating pressure 30 psig [200 kPa]		
	Tank Capacities, gallon (l)	
System Volume	**Pressurized Diaphragm Type**	**Nonpressurized Type**
100 (379)	9 (34)	15 (57)
200 (757)	17 (64)	30 (114)
300 (1136)	25 (95)	45 (170)
400 (1514)	33 (125)	60 (227)
500 (1893)	42 (159)	75 (284)
1,000 (3785)	83 (314)	150 (568)
2,000 (7571)	165 (625)	300 (1 136)

Note: System volume includes volume of water in boiler, radiation, and piping, not including the expansion tank. Expansion tank capacities are based on an

acceptance factor of 0.4027 for pre-pressurized types and 0.222 for non-pressurized types. For other cases or metric calculations see Chapter 12 of the 1996 HVAC Systems and Equipment Volume of the ASHRAE Handbook.

(t) Carbon monoxide (CO) detector/alarm. The owner or user shall install a carbon monoxide detector/alarm in equipment rooms where fuel fired boilers are located in accordance with manufacturer's recommendation, and industry standards, as applicable.

(u) Testing and final acceptance. The completed boiler shall be pressure tested in the shop or in the field in accordance with the original code of construction and documented on the appropriate manufacturer's data report.

(1) The installer shall exercise care during installation to prevent loose weld material, welding rods, small tools, and miscellaneous scrap metal from getting into the vessel. Prior to making the final closure, the installer shall inspect the interior of the vessel and its appurtenances for the presence of foreign debris, and if present it shall be removed;

(2) Subject to the department's requirements, a leak test may be performed on any components whose pressure test is not documented under the items' manufacturer's data report. This leak test should not exceed ninety (90%) of the lowest pressure relief device setpoint. The test data shall be recorded, and the data made available as required;

(3) Prior to final acceptance, an operational test shall be performed on the completed installation. The test shall include operating controls, limit controls and safety devices, and witnessed as required by the department. The test data shall be recorded, and the data made available to the department as evidence that the installation complies with provisions of the governing code(s) of construction; and

(4) All fuel fired boiler and fuel fired pressure vessel combustion air-fuel ratios shall be analyzed, adjusted, and values documented during commissioning to meet emission requirements and limits of the manufacturer.

[Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-223.1-14 Preventive maintenance schedule. Maintenance. The owner or user of the pressure retaining item is responsible for ensuring that all equipment is maintained as listed in this section. Steam boiler maintenance shall be performed as per ASME BPVC Section VI, Steam Boiler – Sec 7.7 Maintenance, and ASME CSD-1, Part CM (see [~~Exhibits 1 and 2~~] Exhibit 1, titled, "Recommended Preventative Maintenance Schedule", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and Exhibit 2, titled, "Table D-1-1 Periodic Testing Recommended Checklist", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter). Hot-water boiler and hot-water heating boiler maintenance shall be performed as per ASME BPVC Section VI, Hot-Water Boiler and Hot-Water Heating Boiler – Sec 8.7 Maintenance, and [~~ASME CSD-1, Part CM (see chart below Exhibit 1)~~] Exhibit 1, titled, "Recommended Preventative Maintenance Schedule", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter, and Exhibit 2, titled, "Table D-1-1 Periodic Testing Recommended Checklist", dated October 1, 2023, which is made a part of this chapter and located at the end of this chapter." [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

EXHIBIT 1 October 1, 2023

Recommended Preventive Maintenance Schedule

D-1 INTRODUCTION

Operation and maintenance instructions in this Appendix are intended for general applications. Table D-1-1 presents a periodic checklist for these recommended preventive maintenance tasks. For specific operating and maintenance instructions, consult the equipment manufacturer.

D-2 DAILY

(a) Check gages, monitors, and indicators.
(b) Check instrument and equipment settings.
(c) For high-pressure boilers, test all low-water fuel cutoff devices and alarms.
(d) Check burner flame.

D-3 WEEKLY

(a) For low-pressure boilers, test all low-water fuel cutoff devices and alarms.
(b) Check igniter.
(c) Check flame signal strength.
(d) Check flame failure detection system.
(e) Check firing rate control.
(f) Make aural and visual check of pilot and main fuel valves.

D-4 MONTHLY

(a) Check flue, vent, stack, or outlet dampers.
(b) Test low draft, fan air pressure, and damper position interlocks.
(c) Check low fire start interlock.
(d) Test high and low oil pressure and oil temperature interlocks.
(e) Test high and low gas-pressure interlocks.

D-5 SEMIANNUALLY

(a) Recalibrate all indicating and recording gages.
(b) For steam boilers, perform a slow drain test of all the low-water fuel cutoff devices.
(c) Check flame failure detection system components.
(d) Check firing rate control.
(e) Check piping and wiring of all interlocks and shutoff valves.
(f) Inspect burner components.

D-6 ANNUALLY

(a) Flame failure detection system, conduct pilot turndown test.
(b) Flame failure detection system, test for hot refractory hold-in.
(c) Check dual fuel change over control.
(d) Test high-limit and operating temperature or steam pressure controls.
(e) Replace vacuum tubes, scanners, or flame rods in accordance with manufacturer's instructions.
(f) Conduct a combustion test.
(g) Check all coils and diaphragms; test other operating parts of all safety shutoff and control valves.
(h) Test safety shutoff valve proof-of-closure switch(es) in accordance with manufacturer's instructions.
(i) Perform leakage test on pilot and main gas and/or oil fuel valves and valve proving systems in accordance with manufacturer's instructions.
(j) Test purge air switch in accordance with manufacturer's instructions.
(k) Test air/steam interlock in accordance with manufacturer's instructions.
(l) Test burner position interlock in accordance with manufacturer's instructions.
(m) Test rotary cup interlock in accordance with manufacturer's instructions.
(n) Test low fire start interlock in accordance with manufacturer's instructions.
(o) Test for gas leakage on all threaded and flanged connections.
(p) Verify burner is operating within manufacturer's specifications.

D-7 AS REQUIRED

(a) Recondition or replace low-water fuel cutoff device.
(b) For oil-fired burners, clean atomizers and oil strainers.
(c) For gas-fired burners, check sediment trap and gas strainers.
(d) Flame failure detection system, conduct pilot turndown test.
(e) Flame failure detection system, test for hot refractory hold-in.

(f) Test safety/safety relief valves in accordance with ASME Boiler and Pressure Vessel Code, Sections VI and VII.
(g) For parallel positioning systems, verify actuator-to-fuel-valve couplings and actuator-to-damper couplings are properly connected.
(h) For combustion air fan variable frequency drive applications, test interlocks wired to the primary flame safety device including drive fault interlocks and improper speed control interlocks.

Table D-1-1 Periodic Testing Recommended Checklist

Frequency [Note (1)]								Accomplished By	
D	W	M	S/A	A	A/R	Component/Item	Recommended Test	Boiler Operator	Service Technician
X	...	...	...	...	...	Gages, monitors, and indicators	Make visual inspection and record readings in boiler log.	X	...
...	...	...	X	...	...	Gages, monitors, and indicators	Recalibrate all indicating and recording gages.	...	X
X	...	...	...	...	...	Instrument and equipment settings	Make visual check against factory-recommended specifications.	X	...
X	...	...	...	...	...	Low-water fuel cutoff devices (high-pressure boilers)	Test all low-water fuel cutoff devices according to manufacturer's instructions.	X	...
...	X	...	...	...	...	Low-water fuel cutoff devices (low-pressure boilers)	Test all low-water fuel cutoff devices according to manufacturer's instructions.	X	...
...	...	...	X	...	...	Low-water fuel cutoff devices (steam boilers)	For steam boilers, perform a slow drain test in accordance with ASME Boiler and Pressure Vessel Code, Section VI.	...	X
...	...	...	...	...	X	Low-water fuel cutoff devices	Recondition or replace each low-water fuel cutoff device.	...	X
...	...	...	...	X	...	Operating and/or limit controls	Test high-limit and operating temperature or steam pressure controls.	...	X
...	...	...	...	...	X	Safety/safety relief valves	Test safety/safety relief valves in accordance with ASME Boiler and Pressure Vessel Code, Sections VI and VII.	...	X
...	...	X	...	...	...	Flue, vent, stack, or outlet dampers	Make visual inspection of linkage, and check for proper operation.	X	...
X	...	...	...	...	...	Burner flame	Make visual inspection of burner flame [Note (2)].	X	...
...	X	...	...	...	...	Igniter	Make visual inspection, and check flame signal strength if meter-fitted.	X	...
...	X	...	...	...	...	Flame signal strength	If flame signal meter is installed, read and log. For both pilot and main flames, notify service organization if readings are very high, very low, or fluctuating (refer to manufacturer's instructions).	X	...
...	X	...	...	...	...	Flame failure detection system	Close manual fuel supply for (1) pilot, (2) main fuel cock, and/or (3) valve(s). Check safety shutdown timing and log.	X	...

EXHIBIT 2 Continued

Frequency [Note (1)]								Accomplished By	
D	W	M	S/A	A	A/R	Component/Item	Recommended Test	Boiler Operator	Service Technician
...	...	...	X	...	...	Flame failure detection system	Check flame failure detection system components, such as vacuum tubes, amplifier, and relays.	...	X
...	...	...	...	X	...	Flame failure detection system	Replace vacuum tubes, scanners, or flame rods in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	X	Flame failure detection system (pilot turndown test)	Conduct pilot turndown test according to manufacturer's instructions. This test is required annually and after any adjustments to flame scanner mount or pilot burner.	...	X
...	...	...	...	X	X	Flame failure detection system (hot refractory hold in test)	Test for hot refractory hold-in. This test is required annually and after any adjustments to the flame scanner mount or pilot burner.	...	X
...	X	...	...	...	...	Firing rate control	Check firing rate control, and verify factory settings (refer to manufacturer's instructions).	X	...
...	...	...	X	...	...	Firing rate control	Check firing rate control, and verify factory settings (refer to manufacturer's instructions).	...	X
...	...	...	...	X	...	Firing rate control	Conduct a combustion test, and verify settings are in accordance with manufacturer's instructions.	...	X
...	X	...	...	...	...	Pilot and/or main fuel valves	Open limit switch, and make aural and visual check. Check valve position indicators, and check fuel meters if so fitted.	X	...
...	...	...	...	X	...	Pilot and/or main fuel valves	Check all coils and diaphragms. Test other operating parts of all safety shutoff and control valves.	...	X
...	...	...	...	X	...	Pilot and/or main fuel valves	Test fuel valve interlock switch in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Pilot and/or main fuel valves	Perform leakage test on pilot and main gas and/or oil fuel valves, in accordance with manufacturer's instructions.	...	X
...	...	X	...	...	...	Low draft, fan, air pressure, and damper position interlocks	Test low draft, fan, air pressure, and damper position interlocks according to manufacturer's instructions.	X	...

EXHIBIT 2 Continued

Frequency [Note (1)]						Component/Item	Recommended Test	Accomplished By	
D	W	M	S/A	A	A/R			Boiler Operator	Service Technician
...	...	...	...	X	...	Low draft, fan, air pressure, and damper position interlocks	Test purge switch in accordance with manufacturer's instructions.	...	X
...	...	X	...	...	...	Low fire start interlock	Check low fire start interlock according to manufacturer's instructions.	X	...
...	...	...	...	X	...	Low fire start interlock	Test low fire start interlock according to manufacturer's instructions.	...	X
...	...	X	...	...	...	Oil pressure and temperature interlocks	Test high and low oil pressure and temperature interlocks according to manufacturer's instructions.	X	...
...	...	X	...	...	...	Gas pressure interlocks	Test high and low gas-pressure interlocks according to manufacturer's instructions.	X	...
...	...	...	X	...	...	Interlocks and valves	Check piping and wiring of all interlocks and shutoff valves.	...	X
...	...	...	...	X	...	Atomizing air/steam interlock	Test air/steam interlock in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Burner position interlock	Test burner position interlock in accordance with manufacturer's instructions.	...	X
...	...	...	...	X	...	Rotary cup burner interlock	Test rotary cup interlock in accordance with manufacturer's instructions.	...	X
...	...	...	X	...	...	Burner components	Inspect burner components according to manufacturer's instructions.	...	X
...	...	...	...	X	X	Burner components	Check dual fuel change over control. If automatically controlled by gas utility, perform test under the supervision of gas utility.	...	X
...	...	...	...	...	X	Burner components	For oil-fired burners, clean atomizers and oil strainers.	...	X
...	...	...	...	...	X	Burner components	For gas-fired burners, check sediment trap and gas strainer.	...	X

GENERAL NOTE: See manufacturer's instructions.

NOTES:
(1) D = daily; W = weekly; M = monthly; S/A = semiannually; A = annually; A/R = as-required.
(2) Caution should be used when viewing burner flame. Personal protective equipment, such as filtered eyeware, may be necessary.

EXHIBIT 3 October 1, 2023

FORM I-1 REPORT OF BOILER INSTALLATION

in accordance with provisions of the *National Board Inspection Code*

INSTALLATION: ☐ New ☐ Reinstalled ☐ Second Hand Date ____/____/____

INSTALLER	OWNER-USER	OBJECT LOCATION
Name	Name	Name
Street	Street, PO Box, RR	Street
City, State, ZIP	City, State, ZIP	City, State, ZIP

Jurisdiction No.	National Board No.	Manufacturer		Mfg. Serial No.	Year Built	Boiler Type	Boiler Use
Fuel	Method of Firing	Btu/kW input	Btu/kW output	Operating PSI	ASME Code Designator(s) ☐A ☐S ☐U ☐HLW ☐M ☐E ☐H ☐Other		
Stamped MAWP	Heating Surface, Sq. Ft.	Cast Iron	Manhole	Specific On-Site Location, i.e., Utility Room			
Pressure Relief Valve Size	Pressure Relief Valve Set Pressure	Pressure Relief Valve Capacity ☐Btu/hr ☐Lb/hr	Manufacturer	Low-Water Fuel Cutoff Mfg. _____ No.			
1. _____	1. _____	1. _____	1. _____	Probe Type _____			
2. _____	2. _____	2. _____	2. _____	Flow Switch _____			
3. _____	3. _____	3. _____	3. _____	Float & Chamber _____			
4. _____	4. _____	4. _____	4. _____	Other (Specify) _____			

PRESSURE/ALTITUDE GAGE:	EXPANSION TANK:	VENTILATION AND COMBUSTION AIR
Dial Graduation _____	ASME Constructed ☐Yes ☐No	Unobstructed Opening (sq. in.) _____
Valve/Cock Size _____ MAWP _____	Other _____	Power Ventilator Fan (CFM) _____
Pipe Connection Size _____	MAWP _____	
Siphon or Equivalent Device ☐Yes ☐No	No. Gallons _____	

WATER LEVEL INDICATORS:	FEED WATER SUPPLY:
Number of Gage Glasses _____	Number of Feeding Means _____
Number of Remote Indicators _____	Pipe Size _____
Size of Connection Piping _____	Stop Valve Size _____ MAWP _____
	Check Valve Size _____ MAWP _____
STOP VALVES:	EXTERNAL PIPING ASME CODE: ☐Yes ☐No ☐Other _____ FUEL TRAIN: ☐CSD-1 ☐NFPA-85 ☐Other _____
Number of Valves _____	
Valve Size _____	
BOTTOM BLOWDOWN CONNECTIONS:	POTABLE WATER HEATER UNIQUE REQUIREMENTS ☐Yes ☐No
Number of Valves _____	Inlet Stop Valve Size _____ MAWP _____
Valve Size _____ MAWP _____	Outlet Stop Valve Size _____ MAWP _____
Piping Run Full Size ☐Yes ☐No	Drain Valve Size _____
	Thermometer ☐Yes
Manufacturer's Certification Attached: ☐Yes ☐No	Clearance from walls and floors:
Does boiler replace existing one: ☐Yes ☐No	Side _____ Bottom _____ Top _____

Additional recommendations and remarks by installer:

Installer Name (PRINT)	Registration #	I HEREBY CERTIFY THAT THE INSTALLATION COMPLIES WITH NBIC, Part 1
		Installer Signature

1.4.5.1.1 GUIDE FOR COMPLETING NATIONAL BOARD BOILER INSTALLATION REPORT (21)

1) INSTALLATION: Indicate the type and date of installation — new, reinstalled, or second hand.
2) INSTALLER: Enter the installer's name and physical address.
3) OWNER-USER: Enter the name and mailing address of the owner-user of the boiler.
4) OBJECT LOCATION: Enter the name of the company or business and physical address where the installation was made.
5) JURISDICTION NO.: Enter the Jurisdiction number if assigned at the time of installation.
6) NATIONAL BOARD NO.: Enter the assigned National Board number.
   Note:
   Cast section boilers do not require National Board registration.
7) MANUFACTURER: Enter the boiler manufacturer's name.
8) MFG. SERIAL NO.: Enter the assigned boiler manufacturer's serial number.
9) YEAR BUILT: Enter the year the boiler was manufactured.
10) BOILER TYPE: Enter the type of boiler, e.g., watertube, firetube, cast, electric, etc.
11) BOILER USE: Enter the service for which or for how the boiler will be used, e.g., heating (steam or water), potable water, etc.
12) FUEL: Enter the type of fuel, e.g., natural gas, diesel, wood, etc. If more than one fuel type, enter the types for which the boiler is equipped.
13) METHOD OF FIRING: Enter the method of firing, e.g., automatic, hand, stoker, etc.
14) Btu/kW INPUT: Enter the Btu/hr or kW input of the boiler.
15) Btu/kW OUTPUT: Enter the Btu/hr or kW output of the boiler.
16) OPERATING PSI: Enter the allowed operating pressure.
17) ASME CODE DESIGNATOR'S: Check the ASME Code designator shown on the code nameplate or stamping of other certification mark (specify).
18) STAMPED MAWP: Enter the maximum allowable working pressure shown on the nameplate or stamping.
19) HEATING SURFACE SQ. FT.: Enter the boiler heating surface shown on the stamping or nameplate.
    Note:
    This entry is not required for electric boilers.

20) CAST BOILER: Enter the total number of sections for cast boilers.
Note:
Not all cast boilers are sectional. Mono-block cast boilers should be described as having one (1) section.

21) MANHOLE: Indicate whether the boiler has a manway.

22) SPECIFIC ON-SITE LOCATION: Enter the on-site location of the boiler in sufficient detail to allow location of that boiler.

23) PRESSURE RELIEF VALVE SIZE: Enter the inlet and outlet size of all installed boiler safety or safety relief valves.

24) PRESSURE RELIEF VALVE SET PRESSURE: Enter the set pressure of all installed boiler safety or safety relief valves.

25) PRESSURE RELIEF VALVE CAPACITY: Enter the capacity in either lbs. of steam per hour or Btu/hr for each installed boiler safety or safety relief valve.

26) MANUFACTURER: Enter the manufacturer of each installed boiler safety and safety relief valve.

27) LOW-WATER FUEL CUTOFF: Enter the manufacturer's name, type, number, and maximum allowable working pressure of all installed low-water fuel cutoff devices.

28) PRESSURE/ALTITUDE GAGE: Enter the dial range of the installed pressure or altitude gage, cutout valve or cock size, a maximum allowable working pressure, and gage pipe connection size. For steam boilers, indicate gage siphon or equivalent device installed.

29) EXPANSION TANK: Indicate code of construction of installed expansion tank, tank maximum allowable working pressure, and tank capacity in gallons.

30) VENTILATION AND COMBUSTION AIR: Indicate total square inches of unobstructed opening or total cubic feet per minute of power ventilator fan(s) available for ventilation and combustion air.

31) WATER LEVEL INDICATORS: Enter the number of gage glasses and/or remote indicators and connecting pipe size.

32) FEEDWATER SUPPLY: Enter the total number of feeding means, connecting pipe size, stop and check valve size, and maximum allowable working pressure.

33) STOP VALVE(S): Enter the number of stop valves installed, valve size, and maximum allowable working pressure.

34) POTABLE WATER HEATER UNIQUE REQUIREMENTS: Indicate if stop valves are installed and, if so, enter size and maximum allowable working pressure. Enter drain valve size and indicate installation of thermometer at or near boiler outlet.

35) MANUFACTURER'S CERTIFICATION ATTACHED: Indicate if manufacturer's certificate is attached (mandatory for new installations).

36) CLEARANCE REQUIREMENTS AND REPLACEMENT OF EXISTING BOILER: Indicate clearances and whether the installation replaced an existing boiler.

37) ADDITIONAL REMARKS: Enter any remarks or comments you deem appropriate.

38) INSTALLER'S NAME AND SIGNATURE: Print installer's name and registration number and sign completed report.

MANUFACTURER'S/INSTALLING CONTRACTOR'S REPORT FOR ASME CSD-1

Certification and Reporting (CG-500) for Controls and Safety Devices
(This form is a guideline and not part of ASME CSD-1–2021.)

Unit Manufacturer

Name _____

Address _____ Zip _____

Telephone _____ Fax _____

Unit Identification (Boiler)

Manufacturer's Model # _____ Year Built _____

ASME Section I _____ Section IV _____ Nat. Bd. # _____

UL # _____ CSA # _____

Jurisdiction _____

Steam

Maximum W.P. _____ psig

Minimum Safety Valve Cap. _____ lb/hr

Hot Water

Maximum W.P. _____ psig

Maximum Temp. _____ °F

Minimum Safety Relief Valve Cap. _____ lb/hr or Btu/hr

Boiler Unit Description (type) _____

If Modular (no. of modules) _____

Boiler Unit Capacity (output) _____

Burner

Manufacturer _____ Model _____

UL or CSA # _____ Serial # _____

Fuels (as shipped) _____

	Indicate Units (where not applicable, indicate "N/A")
Gas Manifold Pressure	
Oil Nozzle/Delivery Pressure (at maximum input)	
High Gas Pressure Switch Setting	
Low Oil Pressure Switch Setting	

Installation Location (if known)

Customer Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

Certification and Reporting (CG-500) for Controls and Safety Devices (Cont'd)

(This form is a guideline and not part of ASME CSD-1–2021.)

Control/Device	Manufacturer	Model #	Operational Test Performed, Date
Operating Controls			
Low-Water Fuel Cutoff CW-120(a), CW-140			
Forced Circulation CW-210			
Steam Pressure CW-310(b)			
Water Temperature CW-410(b)			
Safety Controls			
Low-Water Fuel Cutoff CW-120(a), CW-120(b), CW-130, CW-140			
Forced Circulation CW-210(c)			
High Steam Pressure Limit CW-310(c)			
High Water Temperature Limit CW-410(b)			
Fuel Safety Shutoff Valve, Main CF-180(b)			
Pilot Safety Shutoff Valve CF-180(e)			
Atomizing Medium Switch CF-450(b)			
Combustion Air Switch CF-220			
High Gas Pressure CF-162			
Low Gas Pressure CF-162			
Low Oil Pressure CF-450(a)			
High Oil Temperature CF-450(c)			
Low Oil Temperature CF-450(d)			
Purge Air Flow CF-210			
Flame Safeguard (Primary) CF-310, CF-320			
Flame Detector CF-310, CF-320			
Low Fire Start			
Low Fire Start Switch CF-610			
Safety or Safety Relief Valve(s) CW-510, CW-520			

Certification and Reporting (CG-500) for Controls and Safety Devices (Cont'd)
(This form is a guideline and not part of ASME CSD-1–2021.)

Manufacturer _____ **Operational Test Performed, Date** _____ / _____ / _____

Model _____

Size _____

Capacity _____ lb/hr or Btu/hr

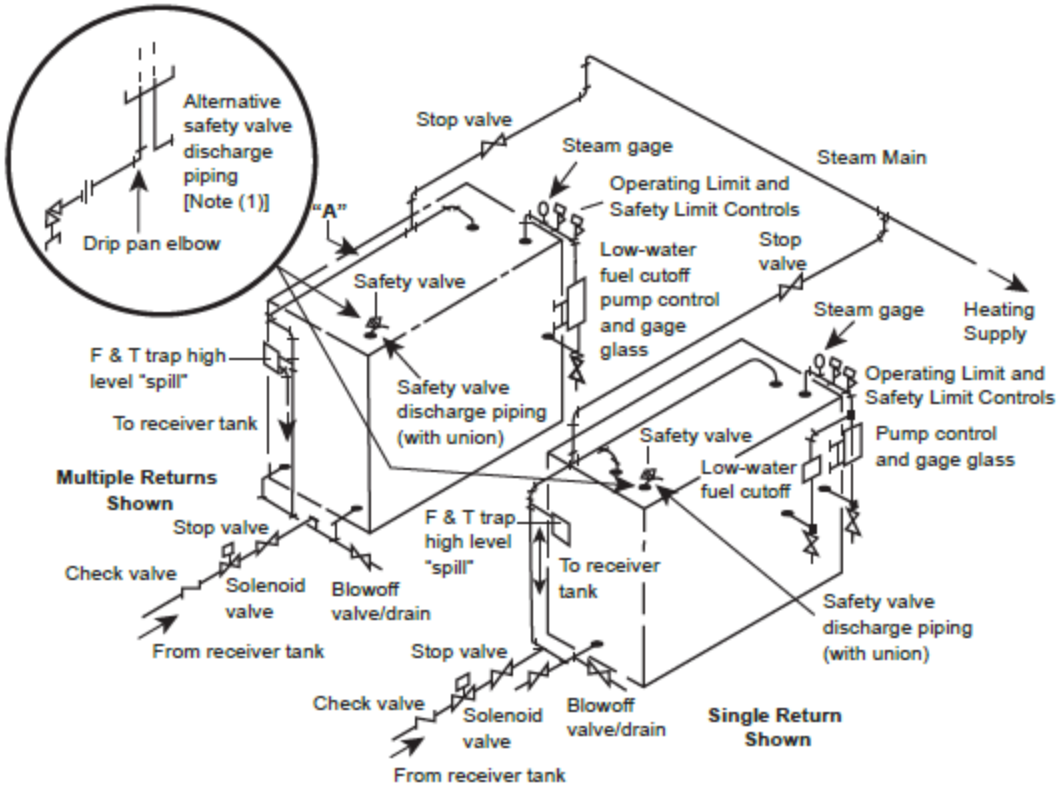
Representing Equipment Manufacturer, Name _____

Signature _____ Date _____

Representing Installing Contractor, Name _____

Signature _____ Date _____

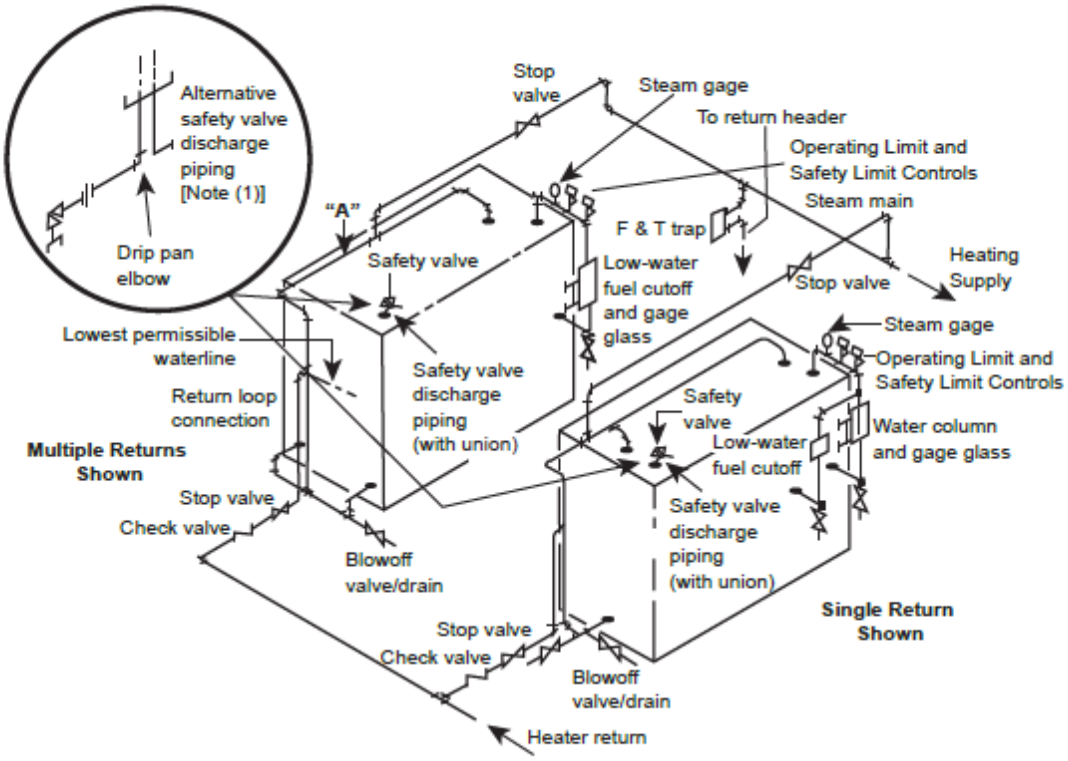
Steam Boilers in Battery – Pumped Return
Acceptable Piping Installation



General Note:
Return connections shown for multiple boiler installation may not always ensure that the system will operate properly. In order to maintain proper water levels in multiple boiler installations, it may be necessary to install supplementary controls or suitable devices.

Note:
(1) Recommended for 1 in. (25mm) and larger safety valve discharge.

Steam Boilers in Battery – Gravity Return
Acceptable Piping Installation

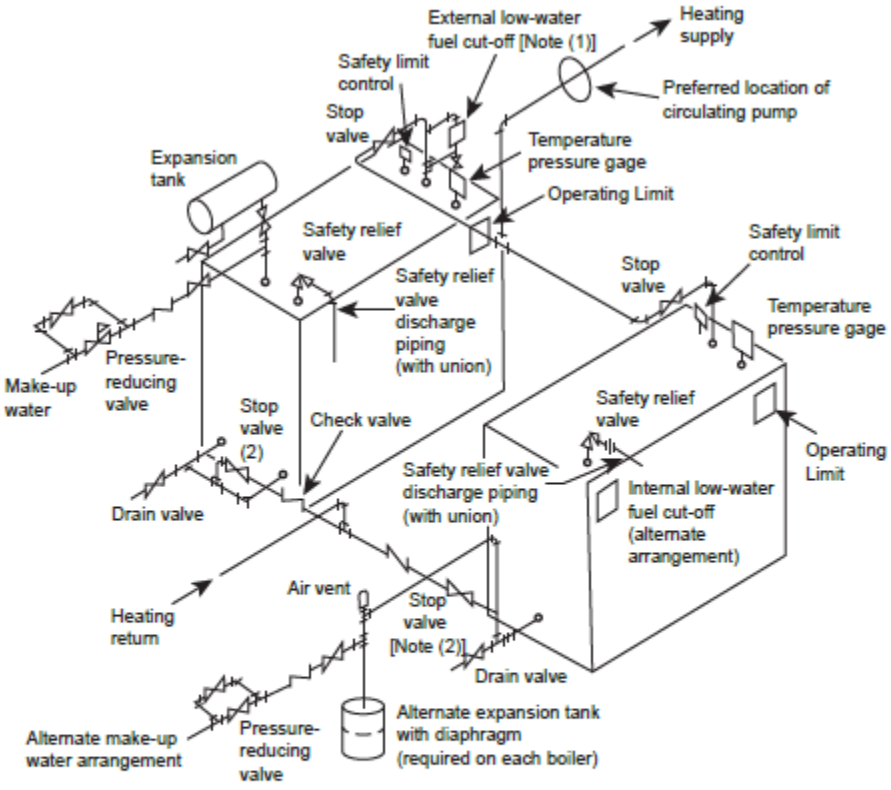


General Note:
Return connections shown for multiple boiler installation may not always ensure that the system will operate properly. In order to maintain proper water levels in multiple boiler installations, it may be necessary to install supplementary controls or suitable devices.

Note:
(1) Recommended for 1 in. (25mm) and larger safety valve discharge.

EXHIBIT 7 October 1, 2023

Hot Water Boilers in Battery
Acceptable Piping Installation



General Notes:

(1) Recommended control. See ASME Section IV, HG-614. Acceptable shutoff valve or cocks in the connecting piping may be installed for convenience or control testing and/or service.

(2) The common return header stop valves may be located on either side of the check valves.

EXPANSION TANK CAPACITIES FOR GRAVITY HOT-WATER SYSTEMS

Based on two-pipe system with average operating water temperature 170°F (77°C), using cast-iron column radiation with heat emission rate 150 Btu/hr/ft² (473 W/m²) equivalent direct radiation.		
Installed Equivalent Direct Radiation, ft² (m²) (Note)	**No.**	**Tank Capacity, gallon (/)**
up to 350 (33)	1	18 (68)
up to 450 (42)	1	21 (79)
up to 650 (60)	1	24 (91)
up to 900 (84)	1	30 (114)
up to 1,100 (102)	1	35 (132)
up to 1,400 (130)	1	40 (151)
up to 1.600 (149)	2	60 (227)
up to 1,800 (167)	2	60 (227)
up to 2,000 (186)	2	70 (265)
up to 2,400 (223)	2	80 (303)

Note:

For systems with more than 2,400 ft² (223 m²) of installed equivalent direct water radiation, the required capacity of the cushion tank shall be increased on the basis of 1 gallon (3.79 l) tank capacity/33 ft² (3.1 m²) of additional equivalent direct radiation.

MINIMUM POUNDS OF STEAM PER HOUR PER SQUARE FOOT OF HEATING SURFACE
lb steam/hr ft² (kg steam/hr m²)

	Firetube Boiler	Watertube Boiler
Boiler Heating Surface		
Hand-fired	5 (24)	6 (29)
Stoker-fired	7 (34)	8 (39)
Oil, gas, or pulverized coal	8 (39)	10 (49)
Waterwall Heating Surface		
Hand-fired	8 (39)	8 (39)
Stoker-fired	10 (49)	12 (59)
Oil, gas, or pulverized coal	14 (68)	16 (78)
Copper-finned Watertubes		
Hand-fired		4 (20)
Stoker-fired		5 (24)
Oil, gas, or pulverized coal		6 (29)

Notes:

- When a boiler is fired only by a gas having a heat value not in excess of 200 Btu/ft.^{3}(7.5MJ/m^3), the minimum relieving capacity should be based on the values given for hand-fired boilers above.
- The heating surface shall be computed for that side of the boiler surface exposed to the products of combustion, exclusive of the superheating surface. In computing the heating surface for this purpose only the tubes, fireboxes, shells, tubesheets, and the projected area of headers need to be considered, except that for vertical firetube steam boilers, only that portion of the tube surface up to the middle gage cock is to be computed.
- For firetube boiler units exceeding 8,000 Btu/ft.^{2} (9,085 J/cm.^{2}) (total fuel Btu (J) Input divided by total heating surface), the factor from the table will be increased by 1 (4.88) for every 1,000 Btu/ft.^{2} (1,136 J/cm.^{2}) above 8,000 Btu/ft.^{2} (9,085 J/cm.^{2}) For units less than 7,000 Btu/ft.^{2} (7,950 J/cm.^{2}), the factor from the table will be decreased by 1 (4.88).
- For watertube boiler units exceeding 16,000 Btu/ft.^{2} (18,170 J/cm.^{2})(total fuel Btu input divided by the total heating surface) the factor from the table will be increased by 1 (4.88) for every 1,000 Btu/ft.^{2} (1,136 J/cm.^{2}) above 16,000 Btu/ft.^{2} (18,170 J/cm.^{2}). For units with less than 15,000 Btu/ft.^{2} (17,034 J/cm.^{2}), the factor in the table will be decreased by 1 (4.88) for every 1,000 Btu/ft.^{2} (1,136 J/cm.^{2}) below 15,000 Btu/ft.^{2} (17,034 J/cm.^{2}).

4. Chapter 12-224.1, Hawaii Administrative Rules, entitled "Pressure Vessels", is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

HAWAII OCCUPATIONAL SAFETY AND HEALTH DIVISION

PART 10

BOILER AND PRESSURE VESSELS

CHAPTER 224.1

PRESSURE VESSELS

Historical Note: This chapter is based substantially upon chapter 224. [Eff 12/6/82; am 12/19/83; am 12/8/86; am and comp 12/6/90; am 11/18/12; R 12/21/19]

§12-224.1-1 Scope. The requirements in this section shall apply to pressure vessels, except for the exemptions in section 12-220-2.1 (c)(3) and (4), and is not limited to the following:

(1) All unfired pressure vessels with design pressure exceeding fifteen (15) psi or five (5) cubic feet in volume;
(2) Hot water storage tanks with a nominal water containing capacity greater than [~~120~~] one hundred-twenty (120) gallons;
(3) Unfired autoclaves greater than five (5) cubic feet in volume regardless of operating pressure;
(4) Fired or self-contained sterilizers, jacketed kettles, steam cookers, and autoclaves exceeding a heat input of three (3.0) kw or a volume of one and a half (1.5) cubic feet;
(5) Unfired jacketed kettles with a cooking capacity of forty (40) gallons or more;
(6) Heat exchangers with a heat input exceeding 200,000 Btu/H or five (5) cubic feet in volume;
(7) Hydro pneumatic tanks exceeding one hundred twenty (120) gallons in volume;
(8) Expansion tanks exceeding five (5) cubic feet in volume for hot water heating system; and
(9) Pressure Vessels for Human Occupancy (PVHOs). [Eff and comp; 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224.1-2 General requirements. (a) All pressure vessels in operation in this jurisdiction

shall have a current and valid operating permit issued to a specific location by the department. Changes in ownership shall require notifying the department and may require reinspection.

(b) All pressure vessels shall bear the ASME Code Symbol Stamp "HLW", "U", "U2", "U3", "RP" or ASME certification mark with the appropriate designator and the NB registration number. The ASME/NB stamping shall be legible, and insulation and paint shall not conceal the stamping.

(c) Upon completion of the installation of a new pressure vessel, it shall be marked by an inspector employed by the department with a state serial number, consisting of letters and figures not less than 5/16 inch in height and arranged as HPV####-Year.

(d) Replacement of an existing pressure vessel shall be in accordance with the requirements for new installations. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224.1-3 Responsibilities of owners and users. (a) The owner or user of the pressure vessel is responsible for ensuring that all equipment meet the requirements of the jurisdiction at the point of installation including licensing, registration, and certification of those performing installations.

(b) Owners or users shall ensure operating permit renewal inspections are completed prior to the permit expiration date. It is the responsibility of the owner or user to schedule pressure vessel permit renewal inspections.

(c) Operation of pressure vessels with expired operating permits is not allowed and may be subject to penalties as described in this part. Requests for the extension of operating permits may be considered for valid reasons by submitting a written request to the chief boiler inspector. The unavailability of special inspectors to conduct inspections is not a valid reason for requesting permit extensions;

inspectors employed by the department may perform the inspections in the absence of special inspectors. [Eff and comp 12/21/19; comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224.1-4 Inspections. (a) Initial acceptance inspections shall be conducted and witnessed by the chief boiler inspector or deputy inspector designee. These inspections may include internal inspection where construction permits, post installation pressure test at the inspector's discretion, and operational testing of controls and safety devices by the installer, contractor, or owner. Tests shall be made in conformance with the procedures set forth in ASME BPVC, NBIC, and this part.

(b) Permit renewal inspections. Pressure vessels shall receive a permit renewal inspection every two years. Pressure vessels that are under the ownership, inspection, and supervision of an OUIO may be inspected on a different inspection frequency upon approval by the chief boiler inspector.

(c) Additional inspection requirements include the following:

(1) Internal inspections, where construction permits and hydrostatic testing, which may be required at the inspector's discretion, shall occur when deemed necessary for continued safe operation of the pressure vessel;

(2) The owner shall develop safety policies and procedures for entering pressure vessels and confined spaces; [~~and~~]

(3) Pressure vessels used for the treatment of wood shall be scrubbed clean for close visual inspection every ten years[~~.~~];

(4) The installer shall exercise care during installation to prevent loose weld material, welding rods, small tools, and miscellaneous scrap metal from getting into the vessel. Prior to making the final closure, the installer shall inspect the interior of the

vessel and its appurtenances for the presence of foreign debris, and if present the debris shall be removed;

(5) Subject to the department's requirements, a leak test may be performed on any components whose pressure test is not documented under the items' manufacturer's data report. This leak test should not exceed ninety percent (90%) of the lowest pressure relief device setpoint. The test data shall be recorded, and the data made available as required; and

(6) Prior to final acceptance, an operational test shall be performed on the completed installation. The test shall include operating controls, limit controls and safety devices, and witnessed as required by the department. The test data shall be recorded, and the data made available to the department as evidence that the installation complies with provisions of the governing code(s) of construction. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224.1-5 Technical installation requirements. (a) All pressure vessels shall be installed as required in section 12-220-2.1 and this chapter. An application for installation permit shall be submitted to the department prior to the commencement of work. Pressure vessels installed without an installation permit may be subject to citations with penalties up to $10,000 per day pursuant to section 12-220-22.

(b) First acceptance inspection and certification. The following shall apply to first acceptance inspections and certifications:

(1) Upon completion of the installation, the contractor or owner shall arrange for acceptance inspection with the department;

(2) The installing contractor shall operationally test the pressure vessel controls and safety

devices prior to scheduling first acceptance inspection with the department;

(3) The chief boiler inspector or designated deputy inspector shall conduct the first data inspection, acceptance inspection, and apply the required state pressure vessel identification marking; and

(4) The installing contractor shall test the pressure vessel as directed and witnessed by the chief boiler inspector or designated deputy inspector.

(c) Clearances. All pressure vessel installations must allow sufficient clearance for normal operation, maintenance, and inspection (internal and external). Except as otherwise authorized by the department, clearances for pressure vessels shall not be less than three (3) feet where inspection openings are provided. Vessels having manholes shall have five (5) feet clearance from the manhole opening and any wall, ceiling, or piping that may prevent a person from entering. All other sides shall not be less than eighteen (18) inches between the vessel and adjacent walls or other structures. Alternative clearances in accordance with the manufacturer's recommendations are subject to acceptance by the department.

(d) Pressure relief devices. All pressure vessels shall be protected by pressure relief devices in accordance with the following requirements:

(1) Device requirements:

(A) Each pressure vessel shall be provided with pressure relief devices, to protect against overpressure. These pressure relief devices shall bear the National Board "NB" symbols, the ASME certification mark, and the appropriate designator, as required by the ASME BPVC;

(B) Deadweight or weighted lever pressure relief valves shall not be used;

(C) An unfired steam boiler shall be equipped with pressure relief valves as required in NBIC Part 1, 2.9;

(D) Pressure relief devices shall be selected (e.g., material, pressure, etc.) and installed such that their proper functioning will not be hindered by the nature of the vessel's contents; and

(E) Relief valves, safety valves, or safety relief valves shall be of the hand lift lever type whenever possible to facilitate actuating and testing the device for free operation;

(2) Number of devices. At least one device shall be provided for protection of a pressure vessel. Pressure vessels with multiple chambers with different maximum allowable working pressures shall have a pressure relief device to protect each chamber under the most severe coincident conditions;

(3) Location. The following shall apply to location of devices:

(A) The pressure relief device shall be installed directly on the pressure vessel, unless the source of pressure is external to the vessel and is under such positive control that the pressure cannot exceed the maximum overpressure permitted by the original code of construction and the pressure relief device cannot be isolated from the vessel, except as permitted by NBIC Part 1, 4.5.6(e)(2);

(B) Pressure relief devices intended for use in compressible fluid service shall be connected to the vessel in the vapor space above any contained liquid or in the piping system connected to the vapor space; and

(C) Pressure relief devices intended for use in liquid service shall be connected below the normal liquid line. The liquid level during upset conditions shall be considered;

(4) Capacity. The following shall apply to the capacity of pressure relief devices:
    (A) The pressure relief device(s) shall have sufficient capacity to ensure that the pressure vessel is not exposed to pressure greater than that specified in the original code of construction;
    (B) Vessels connected by a system of piping not containing valves that can isolate any pressure vessel shall be considered as one unit when determining capacity requirements;
    (C) Heat exchangers and similar vessels shall be protected with a pressure relief device of sufficient capacity to avoid overpressure in case of internal failure; and
    (D) The owner shall make information regarding the basis of pressure relief device selection, including required capacity, available to the jurisdiction;
(5) Set pressure. The following shall apply to the set pressure of pressure relief devices:
    (A) When a single pressure relief device is used, the set pressure marked on the device shall not exceed the maximum allowable working pressure; and
    (B) When more than one pressure relief device is provided to obtain the required capacity, only one pressure relief device set pressure needs to be at the maximum allowable working pressure. The set pressures of the additional pressure relief devices shall be such that the pressure cannot exceed the overpressure permitted by the code of construction; and
(6) Installation and discharge piping requirements. The following shall apply to the installation and discharge piping of pressure relief devices:

(A) The opening through all pipe and fittings between a pressure vessel and its pressure relief device shall have at least the area of the pressure relief device inlet. The characteristics of this upstream system shall be such that the pressure drop will not reduce the relieving capacity below that required or adversely affect the proper operation of the pressure relief device. When a discharge pipe is used, the size shall be such that any pressure that may exist or develop will not reduce the relieving capacity below that required or adversely affect the proper operation of the pressure relief device. It shall be as short and straight as possible and arranged to avoid undue stress on the pressure relief device;

(B) A non-reclosing device installed between a pressure vessel and a pressure relief valve shall meet the requirements of subparagraph (A);

[~~B~~](C) The opening in the pressure vessel wall shall be designed to provide unobstructed flow between the vessel and its pressure relief device;

[~~C~~](D) When two or more required pressure relief devices are placed on one connection, the inlet cross-sectional area of this connection shall be sized either to avoid restricting flow to the pressure relief devices or made at least equal to the combined inlet areas of the pressure relief devices connected to it. The flow characteristics of the upstream system shall satisfy the requirements of NBIC Part 1, 4.5.6(e); and

[~~D~~](E) There shall be no intervening stop valves between the vessel and its pressure relief device(s), or between the pressure relief device(s) and the point of

discharge, except under the following conditions:

(i) When these stop valves are so constructed or positively controlled that the closing of the maximum number of block valves at one time will not reduce the pressure relieving capacity below the required relieving capacity;

(ii) Upon specific acceptance of the jurisdiction, when necessary for the continuous operation of processing equipment of such a complex nature that shutdown of any part is not feasible, a full area stop valve between a pressure vessel and its pressure relief device shall be provided for inspection and repair purposes only. This stop valve shall be arranged so that it can be locked or sealed open, and it shall not be closed except by an authorized person who shall remain stationed there during that period of operation while the valve remains closed. The valve shall be locked or sealed in the open position before the authorized person leaves the station;

(iii) A full area stop valve shall also be placed on the discharge side of a pressure relief device when its discharge is connected to a common header for pressure relief devices to prevent discharges from these other devices from flowing back to the first device during inspection and repair. This stop valve shall be arranged so that it can be locked or sealed open, and it shall not be closed except by an

authorized person who shall remain stationed there during that period of operation while the valve remains closed. The valve shall be locked and sealed in the open position before the authorized person leaves the station. This valve shall only be used when a stop valve on the inlet side of the pressure relief device is first closed;

(iv) A pressure vessel in a system where the pressure originates from an outside source shall have a stop valve between the vessel and the pressure relief device, and this valve need not be sealed open, provided it also closes off that vessel from the source of the pressure;

(v) [~~Pressure relief device discharges shall be arranged such that they are not a hazard to personnel or other equipment and, when necessary, lead to a safe location for disposal of fluids being relieved;~~] All pressure relief devices shall releive to a safe point of discharge;

(vi) Discharge lines from pressure relief devices shall be designed to facilitate drainage or be fitted with drains to prevent liquid from collecting in the discharge side of a pressure relief device. The size of discharge lines shall be such that any pressure that may exist or develop will not reduce the relieving capacity of the pressure relief device or adversely affect the operation of the pressure relief device. It shall be as short

and straight as possible and arranged to avoid undue stress on the pressure relief device; [~~and~~]

(vii) Pressure vessel pressure relief devices and discharge piping shall be safely supported. The reaction forces due to discharge of pressure relief devices shall be considered in the design of the inlet and discharge piping. Design of supports, foundations, and settings shall consider vibration (including seismic when necessary), movement (including thermal movement), and loadings (including reaction forces during device operation) in accordance with jurisdictional requirements, manufacturer's recommendations, and/or other industry standards, as applicable[~~.~~]; and

(viii) Pressure relief devices shall be installed so they are readily accessible for inspection, repair, or replacement.

(e) Supports. [~~Each pressure vessel~~] Pressure vessels and associated piping shall be safely supported. The potential for future pressure tests of the vessel after installation shall be considered when designing vessel supports. Design of supports, foundations, and settings shall consider vibration (including seismic and wind loads where necessary), movement (including thermal [~~movement),~~] expansion and contraction), grounding/bonding to minimumize electrolytic corrosion, and loadings (including the weight of water during a [~~hydrostatic~~] pressure test) in accordance with [~~jurisdictional~~] department requirements, manufacturer's recommendations, and other industry standards, as applicable.

(f) Piping. Piping loads on the vessel nozzles shall be considered. Piping loads include weight of the pipe, weight of the contents of the pipe, and expansion

of the pipe from temperature and pressure changes (wind and seismic loads). The effects of piping vibration on the vessel nozzles shall also be considered.

(g) Bolting. All mechanical joints and connections shall conform to the manufacturers' installation instructions and recognized standards acceptable to the jurisdiction.

(h) Instruments and controls. The following shall apply to the instruments and controls of pressure vessels:

(1) Level indicating devices of steam drums of unfired steam boilers shall be provided with two level indicating devices. Direct level indicating devices shall be connected to a single water column or connected directly to the drum, and the connections and pipe shall be not less than NPS 1/2 (DN 15). Indirect level indicating devices acceptable to the jurisdiction may be used; and

(2) The pressure indicating devices of each pressure vessel, or system of pressure vessels with no intervening valves, shall be equipped with a pressure gage graduated to not less than one and a half (1-1/2) times nor more than three (3) times the pressure which the safety or safety relief valve is set.

(i) Isolating valves. Each pressure vessel or multiple pressure vessels connected in series shall have isolating valves which isolate the vessel or vessels from the system in which it or they are installed.

(j) Additional requirements for compressed air vessels. The following shall apply to compressed air vessels:

(1) Under no circumstances shall an air receiver be buried underground or located in an inaccessible place;

(2) Belt guards shall be installed on air compressor units fitted with drive belts;

(3) Drain pipe and valve shall be installed at the lowest point of every pressure vessel

subject to internal corrosion to provide for draining or the removal of accumulated oil and water from an air receiver. Adequate automatic traps may be installed in addition to drain valves. The drain valve on an air receiver shall be opened and drained frequently at such intervals as to prevent the accumulation of excessive amounts of liquids in the receiver; and

(4) The use of thermoplastic piping, known as PVC piping, to transport compressed air or other compressed gases, or the testing of this piping with compressed air or other compressed gases, in exposed above ground locations is prohibited. All thermoplastic piping used to transport compressed air or other compressed gases shall be buried underground or encased in shatter-resistant materials. In designing a thermoplastic piping system to transport compressed air or other compressed gases, the strength at the operating temperature, the pressure, the energetics, and specific failure mechanisms shall be evaluated.

(k) Additional requirements for hot water storage tanks. The following shall apply to hot water storage tanks:

(1) [~~Safety relief devices.~~] Temperature and pressure relief devices. Each potable hot water storage tank shall be equipped with an ASME/NB certified temperature and pressure [~~relieving device~~] relief valve set at a pressure not to exceed the maximum allowable working pressure and 210 degrees Fahrenheit or the maximum allowable working temperature of the vessel as designed. The temperature and pressure [~~relieving device~~] relief valve shall meet the requirements of NBIC Part 1 4.5;

(2) [~~Hot water storage tanks greater than 160 Psi maximum allowable working pressure shall be equipped with an ASME/NB certified~~

~~temperature and pressure relieving device set at a pressure not to exceed the maximum allowable working pressure and 210 degrees Fahrenheit. In lieu of this requirement, such tanks may be equipped with incompressible fluid pressure rated relief valves with appropriate relieving capacity provided the hot water system is installed with an over-temperature protection that adequately prevent the generation of hot water in excess of 210 degrees Fahrenheit; and acceptable to the jurisdiction;~~] Potable hot water storage tanks exceeding the pressure limit of ASME Code Section IV shall meet the original code of construction and shall be protected by a pressure relief valve set not to exceed the vessel's maximum allowable working pressure. A temperature limiting device shall be installed so that the water inside the storage tank does not exceed 210 degrees Fahrenheit (99 Celsius).

Examples of [~~system over-temperature protection:~~] temperature limiting devices:

(A) Operating temperature control and high temperature limit switch with manual reset installed at the potential source;

(B) Automatic self-adjusting over-temperature protection;

(C) Tempering and mixing valves; and

(D) Solenoid operated dump valves with thermostat probe rated for 210 degrees Fahrenheit maximum scale range setting[~~; and~~];

[~~(E) Any other system of over-temperature protection controls to be demonstrated to function as designed and approved by the jurisdiction;~~]

(3) [~~Clearances.~~] Clearances and accessibility. In addition to the clearance requirements under section 12-224.1-5(c), each hot water storage tank shall have at least twelve (12) inches bottom clearance; and:

(A) The required nameplate (marking or stamping) shall be exposed and accessible;

(B) The openings when required shall be accessible to allow for entry for inspection and maintenance; and

(C) Each hot water storage tank shall meet the requirements of NBIC Part 1, 4.3.2;

(4) Each hot water storage and potable hot water storage tank shall have a thermometer so located that it shall be easily readable at or near the outlet. The thermometer shall be so located that it shall at all times indicate the temperature of the water in the storage tank; and

(5) Shut off valves. Each hot water storage and potable hot water storage tank shall be equipped with stop valves in the water inlet piping and the outlet piping for the [~~hot water storage~~] tank to be removed from service without having to drain the complete system. Each [~~hot water storage~~] tank also shall be equipped with a bottom drain valve to provide for flushing and draining of the vessel.

(l) Additional requirements for [~~pressure relief valves for steam to hot-water supply heat exchangers. When a hot-water supply is heated indirectly by steam in a coil or pipe within the service limitations set forth in the NBIC, the pressure of the steam used shall not exceed the safe working pressure of the hot water tank, and a safety relief valve of at least NPS 1 set to relieve at or below the maximum allowable working pressure of the tank, shall be applied on the tank.~~] tanks and heat exchangers include the following:

(1) Steam to hot water supply. When a hot-water supply is heated indirectly by steam in a coil or pipe within the service limitations set forth in NBIC Part 1, 3.2, Definitions, the pressure of the steam used shall not exceed the safe working pressure of the hot water tank, and a pressure relief valve at

least NPS 1 (DN 25), set to relieve at or below the maximum allowable working pressure of the tank, shall be applied on the tank;

(2) High-temperature water to water heat exchanger. When high-temperature water is circulated through the coils or tubes of a heat exchanger to warm water for space heating or hot-water supply, within the service limitations set forth in NBIC Part 1, 3.2, Definitions, the heat exchanger shall be equipped with one or more NB capacity certified pressure relief valves set to relieve at or below the maximum allowable working pressure of the heat exchanger, and of sufficient rated capacity to prevent the heat exchanger pressure from rising more than ten percent (10%) above the maximum allowable working pressure of the vessel; and

(3) High-temperature water to steam heat exchanger. When high-temperature water is circulated through the coils or tubes of a heat exchanger to generate low pressure steam, within the service limitations set forth in NBIC Part 1, 3.2, Definitions, the heat exchanger shall be equipped with one or more National Board capacity certified pressure relief valves set to relieve at a pressure not to exceed fifteen (15) psig (100 kPa), and of sufficient rated capacity to prevent the heat exchanger pressure from rising more than five (5) psig (34 kPa) above the maximum allowable working pressure of the vessel. For heat exchangers requiring steam pressures greater than fifteen (15) psig (100 kPa), refer to NBIC Part 1, Section 2 or Section 4.

(m) Description and concerns of specific types of pressure vessels.

(1) Compressed air vessels[~~.~~], including receivers, separators, filters, and coolers. [~~The following applies to compressed air vessels:~~

(A) Considerations of concern include temperature variances, pressure limitations, vibration, and condensation. Drain connections shall be verified to be free of any foreign material that may cause plugging; and

(B) Inspections of compressed air vessels shall consist of the following:

(i) Welds. Inspect all welds for cracking or gouging, corrosion, and erosion. Particular attention shall be given to the welds that attach brackets supporting the compressor. These welds may fail due to vibration;

(ii) Shells and heads: externally, inspect the base material for environmental deterioration and impacts from objects. Hot spots and bulges are signs of overheating and shall be noted and evaluated for acceptability. Particular attention shall be paid to the lower half of the vessel for corrosion and leakage. For vessels with manways or inspection openings, an internal inspection shall be performed for corrosion, erosion, pitting, excessive deposit buildup, and leakage around inspection openings. Ultrasonic thickness testing (UT) may be used where internal inspection access is limited or to determine actual thickness when corrosion is suspected;

(iii) Fittings and attachments. Inspect all fittings and attachments for alignment, support, deterioration, damage, and leakage around threaded joints. Any internal attachments such as supports, brackets, or rings shall be visually examined

~~for wear, corrosion, erosion, and cracks;~~

~~(iv) Operation. Check the vessel nameplate to determine the maximum allowed working pressure and temperature of the vessel. Ensure the set pressure of the safety valve does not exceed that allowed on the vessel nameplate and determine that the capacity of the safety valve is greater than the capacity of the compressor. Ensure there is a functioning manual or automatic condensate drain; and~~

~~(iv) Quick closure attachments. Filter-type vessels usually have one quick-type closure head for making filter changes, see NBIC Part 2, 2.3.6.5;~~]

Considerations of concern include temperature variances, pressure limitations, vibration, and condensation. Drain connections shall be verified to be free of any foreign material that may cause plugging;

[~~(2) The following shall apply to pressure vessels with quick-actuating closures:~~

~~(A) Due to the many different designs of quick-actuating closures, potential failures of components that are not specifically covered shall be considered. The scope of inspection shall include areas affected by abuse or lack of maintenance and a check for inoperable or bypassed safety and warning devices;~~

~~(B) Temperatures above that for which the quick-actuating closure was designed can have an adverse effect on the safe operation of the device. If parts are found damaged and excessive temperatures are suspected as the cause, the operating temperatures may have exceeded~~

those temperatures recommended by the manufacturer. Rapid fluctuations in temperatures due to rapid start-up and shutdown may lead to cracks or yielding caused by excessive warping and high thermal stress. A careful observation shall be made of the condition of the complete installation, including maintenance and operation, as a guide in forming an opinion of the care the equipment receives. The history of the vessel shall be established, including: year built, materials of construction, extent of post weld heat treatment, previous inspection results, and repairs or alterations performed. Any leak shall be thoroughly investigated and the necessary corrective action initiated;

(C) Inspection of parts and appurtenances. Seating surfaces of the closure device, including but not limited to the gaskets, O-rings, or any mechanical appurtenance to ensure proper alignment of the closure to the seating surface, shall be inspected. This inspection can be made by using powdered chalk or any substance that will indicate that the closure is properly striking the seating surface of the vessel flange. If this method is used, a check shall be made to ensure that:

(i) Material used shall not contaminate the gasket or material with which it comes into contact; and

(ii) The substance used shall be completely removed after the examination;

(D) The closure mechanism of the device shall be inspected for freedom of movement and proper contact with the locking elements. This inspection shall indicate that the movable portions of

~~the locking mechanism are striking the locking element in such a manner that full stroke can be obtained. Inspection shall be made to ensure that the seating surface of the locking mechanism is free of metal burrs and deep scars, which would indicate misalignment or improper operation. A check shall be made for proper alignment of the door hinge mechanisms to ensure that adjustment screws and locking nuts are properly secured. When deficiencies are noted, the following corrective actions shall be initiated:~~

~~(i) If any deterioration of the gasket, O-ring, etc., is found, the gasket, O-ring, etc., shall be replaced immediately. Replacements shall be in accordance with the vessel manufacturer's specifications;~~

~~(ii) If any cracking or excessive wear is discovered on the closing mechanism, the owner or user shall contact the original manufacturer of the device for spare parts or repair information. If this cannot be accomplished, the owner or user shall contact an organization competent in quick-actuating closure design and construction prior to implementing any repairs;~~

~~(iii) Defective safety or warning devices shall be repaired or replaced prior to further operation of the vessel;~~

~~(iv) Deflections, wear, or warping of the sealing surfaces may cause out-of-roundness and misalignment. The manufacturer of the closure shall be contacted for acceptable tolerances for out-of-roundness and deflection; and~~

~~(v) The operation of the closure device through its normal operating cycle shall be observed while under control of the operator. This shall indicate if the operator is following posted procedures and if the operating procedures for the vessel are adequate;~~

~~(E) Gages, safety devices, and controls. The required pressure gage shall be installed so that it is visible from the operating area and located in such a way that the operator can accurately determine the pressure in the vessel while it is in operation. The gage dial size shall be of such a diameter that it can be easily read by the operator. This gage shall have a pressure range of at least one and a half (1.5) times, but not more than four (4) times, the operating pressure of the vessel. There shall be no intervening valve between the vessel and gage;~~

~~(F) The pressure gage shall be of a type that will give accurate readings, especially when there is a rapid change in pressure. It shall be of rugged construction and capable of withstanding severe service conditions. Where necessary, the gage shall be protected by a siphon or trap;~~

~~(G) Pressure gages intended to measure the operating pressure in the vessel are not usually sensitive or easily read at low pressures approaching atmospheric. It may be advisable to install an auxiliary gage that reads inches of water and is intended to measure pressure from atmospheric through low pressures. This ensures that there is zero pressure in the vessel before opening. It would be necessary to protect the auxiliary low-~~

~~pressure gage from the higher operating pressures;~~

~~(H) Provisions shall be made to calibrate pressure gages or to have them checked against a master gage as frequently as necessary;~~

~~(I) A check shall be made to ensure that the closure and its holding elements must be fully engaged in their intended operating position before pressure can be applied to the vessel. A safety interlock device shall be provided that prevents the opening mechanism from operating unless the vessel is completely depressurized; and~~

~~(J) Quick-actuating closures held in position by manually operated locking devices or mechanisms, and which are subject to leakage of the vessel contents prior to disengagement of the locking elements and release of the closure, shall be provided with an audible and/or visible warning device to warn the operator if pressure is applied to the vessel before the closure and its holding elements are fully engaged, and to warn the operator if an attempt is made to operate the locking device before the pressure within the vessel is released. Pressure tending to force the closure clear of the vessel must be released before the closure can be opened for access; and~~

~~(3)~~] (2) [~~Inspection of~~] Pressure Vessels for Human Occupancy (PVHOs). The following shall apply to the inspection of PVHOs:

(A) General and operational. PVHOs shall be constructed in accordance with ASME PVHO-1[~~. This code~~], which adopts ASME BPV Section VIII, [~~and~~] therefore, the vessels shall bear a "U" or "U2" ASME designator. Inspections [~~should~~] shall

be conducted using ASME PVHO-2 for reference[~~:~~]. FOR PVHOs manufactured from non-traditional materials, such as fabrics, PVHO-1 Code Cases shall apply and have all the documentation required by the code case, but not necessarily have any related section ASME BPV Section VIII forms;

(B) Cast and ductile iron fittings are not allowed;

(C) Due to the human occupancy element, a person shall be in attendance to monitor the PVHO when in operation, in the event there is an accident;

(D) The installation shall be such that there is adequate clearance to inspect it properly. In some applications, such as underground tunneling, it may be impossible to perform a complete external inspection;

(E) Internal inspection. Where existing openings permit, perform a visual internal inspection of the vessel. Look for any obvious cracks and note areas that are subject to high stress such as welds, welded repairs, head-to-shell transitions, sharp interior corners, and interior surfaces opposite external attachments or supports. The vessel shall be free of corrosion, damage, dents, gouges, or other damage. All openings leading to external fittings or controls shall be free from obstruction. All exhaust inlets shall be checked to prevent a chamber occupant from inadvertently blocking the opening;

(F) External inspection. The inspector shall closely examine the external condition of the pressure vessel for corrosion, damage, dents, gouges, or other damage. The lower half and the bottom portions of insulated vessels shall receive

special focus, as condensation or moisture may gravitate down the vessel shell and soak into the insulation, keeping it moist for long periods of time. Penetration locations in the insulation or fireproofing such as saddle supports, sphere support legs, nozzles, or fittings shall be examined closely for potential moisture ingress paths. When moisture penetrates the insulation, the insulation may actually work in reverse, holding moisture in the insulation or near the vessel shell. Insulated vessels that are run on an intermittent basis or that have been out of service require close scrutiny. In general, a visual inspection of the vessel's insulated surfaces shall be conducted once per year. The most common and superior method to inspect for suspected corrosion under insulation (CUI) damage is to completely or partially remove the insulation for visual inspection. The method most commonly utilized to inspect for CUI without insulation removal is by X-ray and isotope radiography (film or digital), or by real time radiography, utilizing imaging scopes and surface profilers. The real-time imaging tools will work well if the vessel geometry and insulation thickness allows. Other less common methods to detect CUI include specialized electromagnetic methods (pulsed eddy current and electromagnetic waves) and long-range ultrasonic techniques (guided waves). There are also several methods to detect moisture soaked insulation, which is often the beginning for potential CUI damage. Moisture probe detectors, neutron backscatter, and thermography

are tools that can be used for CUI moisture screening. Proper surface treatment (coating) of the vessel external shell and maintaining weather-tight external insulation are the keys to prevention of CUI damage;

(G) Inspection of parts and appurtenances (e.g., piping systems, pressure gage, bottom drain). As stated above, cast iron is not allowed on PVHOs and shall be replaced with parts fabricated with other suitable materials, in accordance with ASME BPVC Section II. If valves or fittings are in place, check to ensure that these are complete and functional. The inspector shall note the pressure indicated by the gage and compare it with other gages on the same system. If the pressure gage is not mounted on the vessel itself, it shall be ascertained that the gage is installed on the system in such a manner that it correctly indicates actual pressure in the vessel. The inspector shall verify that the vessel is provided with a drain opening. The system shall have a pressure gage designed for at least the most severe condition of coincident pressure in normal operation. This gage shall be clearly visible to the person adjusting the setting of the pressure control valve. The graduation on the pressure gage shall be graduated to not less than one and a half (1.5) times the maximum allowable working pressure (MAWP) of the vessel. Provisions shall be made to calibrate pressure gages or to have them checked against a standard test gage. Any vents and exhausts shall be piped at least ten (10) feet from any air intake. Venting shall be provided at all high points of the piping system;

(H) Inspection of view ports and windows. Each window shall be individually identified and be marked in accordance with PVHO-1. If there are any penetrations through windows, they must be circular. Windows must be free of crazing, cracks, and scratches. Windows and viewports have a maximum interval for seat or seal inspection and refurbishment. Documentation shall be checked to ensure compliance with PVHO-2, Table 2-4.3-1, Table 2-4.3-2 (see Exhibit 1); and

(I) Inspection of pressure relief devices. Pressure relief devices must have a quick opening manual shutoff valve installed between the chamber and the pressure relief device, with a frangible seal in place, within easy access to the operator. The pressure relief device shall be constructed in accordance with ASME BPVC Section VIII. The discharge from the pressure relief device must be piped outside to a safe point of discharge. Rupture disks may be used only if they are in series with a pressure relief valve, or when there is less than two (2) cubic feet of water volume. Verify that the safety valve is periodically tested either manually by raising the disk from the seat or by removing and testing the valve on a test stand. [Eff and comp 12/21/19; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224.1-6 Installation of pressure vessels for human occupancy (PVHOs) (a) Scope. This section provides general information and guidance for installation to help manufacturers, owners, users, and

inspectors understand PVHO systems and their unique characteristics. The PVHO systems covered in this section include only monoplace (single human occupancy) medical systems used for Hyperbaric Oxygen Therapy (HBO). The PVHO system is comprised of one or more monoplace PVHOs each with pressurization and vent controls, monitoring, and communication supplied by facility medical gas systems or dedicated breathing gas systems, gas distribution, controls, and gas storage.

(b) General. A pressure vessel for human occupancy, as defined by ASME PVHO-1, is a pressure vessel that encloses one or more human beings within its pressure boundary while it is subject to internal or external pressure that exceeds a two (2) psi (15 kPa) differential pressure. PVHOs include, but are not limited to, submersibles, diving bells, personal transfer capsules, decompression chambers, recompression chambers, hyperbaric chambers, high-altitude chambers, and medical hyperbaric oxygenation facilities. Unique characteristics of PVHOs include:

(1) Fire hazard due to oxygen enrich environment;

(2) Fire hazard due to in-service hydrocarbon contamination;

(3) Rapid decompression hazard;

(4) Pressure boundary valves at PVHO penetrators;

(5) Cleanliness of gases inside the PVHO system;

(6) In-service life expectancy of flat disc acrylic windows in protected environments, including cylindrical windows, can be up to twenty years with periodic inspections;

(7) Manual or pneumatic control systems; and

(8) Heat, ultraviolet light, and solvents are harmful to acrylic windows.

(c) Documentation, registration, and regulatory requirements. The following shall apply:

(1) PVHO systems shall be designed and constructed in accordance with ASME PVHO-1. This code requires Section VIII for steel and other allowed vessel materials and therefore shall bear a "U" or "U2" ASME designator and forms. PVHO-1 also has several Code Cases that address PVHOs manufactured from non-

Section VIII materials such as reinforced fabrics. PVHO Code Cases are subject to jurisdictional authority and shall have all the documentation required by the Code Case, but not necessarily Section VIII forms;

(2) Viewport acrylic windows shall be designed and constructed in accordance with PVHO-1 and maintained following the rules of PVHO-2. The owner and user should follow PVHO-2 and manufacturer manuals for in-service guidance;

(3) The manufacturer shall retain PVHO system documentation or submit and register with the NB; and

(4) The PVHO system owner shall have copies of the following documents on site:

(A) Manufacturer data report for a Section VIII vessel (FORM U1-A or U2-A);

(B) Manufacturer data report for PVHO-1 (Form GR-1);

(C) PVHO-1 Forms VP-1 to VP-5;

(D) PVHO system installation instructions; and

(E) PVHO system operation and maintenance manuals.

(d) Pressure vessels for human occupancy system configuration and installation. The following shall apply:

(1) PVHOs include the following pressure boundary components:

(A) Shells and heads of revolution;

(B) Openings and their reinforcements;

(C) Nozzles and other connections;

(D) Door seals and quick actuating closures; and

(E) Viewports including acrylic windows;

(2) Pressure vessels designed for human occupancy (such as decompression or hyperbaric chambers) shall be provided with a quick opening stop valve between the pressure vessel and its pressure relief valve. The stop valve shall be

normally sealed open with a frangible seal and be readily accessible to the pressure relief attendant;

(3) A PVHO system, comprised of one or more monoplace PVHOs each with operational controls, should be supplied by a hospital or clinic medical gas system. Installers of medical gas systems that meet NFPA 99 Chapter 5 requirements should be qualified to, and hold third-party certification, in accordance with American Society of Safety Engineers 6010;

(4) Facility installation. The following shall apply to facility installation:

(A) PVHO systems installed and operated within buildings are subject to local building codes, NFPA 99, and the requirements of the department;

(B) The rooms designated for PVHO systems shall be adequately sized, allowing operation and inspection access to all sides of the PVHO system, and dedicated to only hyperbaric system operation;

(C) PVHO system oxygen exhaust and ventilation lines shall be independently piped to the building exterior; and

(D) Temperature in the PVHO room should be maintained for patient comfort;

(5) Electrical. The following shall apply to electrical components of PVHOs:

(A) All electrical controls should be located externally;

(B) Electrically powered control equipment should be connected to grounded facility outlets matching the equipment power specifications;

(C) Electrical penetration connectors should be as specified by the

manufacturer and checked for leak tightness;

(D) Electrical wiring should be supported to prevent obstruction or tripping hazard; and

(E) Electrical systems within the PVHO should protect low-voltage communication and monitoring equipment from being exposed to voltages greater than twenty-eight (28) volts alternative current and currents greater than 0.5 amps and should be grounded in accordance with NFPA 99 Chapter 14;

(6) Controls. The following shall apply to PVHO controls:

(A) Medical PVHO controls, piping, hoses, connections, pressure gages, control valves, gas system should meet PVHO-1 Section 4–Piping Systems, and Section 5–Medical Hyperbaric Systems;

(B) Pressurization, ventilation, and depressurization controls should be manual or pneumatic;

(C) The operator at the PVHO control station should be present and have visual sight and audio communication with PVHO occupant during operation;

(D) Separate oxygen and air supply to the PVHO and occupant should be from the facility medical gas systems or a standalone medical gas system;

(E) The gas system should be sized (both flow and volume) for normal and emergency PVHO operations in accordance with manufacturer's specification or manual. The owner shall have this information available on-site; and

(F) The facility gas system piping or tubing and controls shall be secured to the facility structure up to the adjacent PVHO wall connects. Hoses or tubing shall connect to these wall connections and supply the gases to the PVHO operational controls. Hoses or tubing shall be secured to prevent obstruction or tripping hazards;

(7) Internal system cleanliness and toxicity. The following shall apply:

(A) PVHO systems that include breathing gas systems with air and oxygen enriched gases (greater than 25 per cent oxygen) shall be cleaned and maintained to NFPA 99 Chapter 5; and national consensus standards (e.g., Compressed Gas Association);

(B) Manufacturer maintenance manuals shall be available on site and provide guidance for the owner or user to maintain system cleanliness, and prevent contamination during operation and maintenance; and

(C) Hoses shall be off-gas toxicity tested prior to installation;

(8) Maintenance. The following shall apply to maintenance:

(A) PVHO systems shall be maintained in accordance with PVHO-2 and the manufacturer's maintenance manual;

(B) Periodic window inspections shall be performed in accordance with PVHO-2; and

(C) Replacement windows shall meet PVHO manufacturer specifications (with new PVHO-1 VP-1 to VP-5 forms), and once installed checked for leak tightness." [Eff] (Auth: HRS §397-4) (Imp: HRS §397-4)

5. Material, except source notes and other notes, to be repealed is bracketed and stricken. New material is underscored.

6. Additions to update source notes and other notes to reflect these amendments and compilation are not underscored.

7. These amendments to and compilation of chapters 12-220, 12-222.1, 12-223.1, and 12-224.1, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

I certify that the foregoing are copies of the rules, drafted in the Ramseyer format pursuant to the requirements of section 91-4.1, Hawaii Revised Statutes, which were adopted on January 1, 2024, and filed with the Office of the Lieutenant Governor.

JADE T. BUTAY
Director of Labor and Industrial Relations

APPROVED AS TO FORM:

Deputy Attorney General

IV. New Business

A. Discussion and Action on the Small Business Impact Statement and Proposed Amendments to HAR Title 19 Subtitle 5 Chapter 133.2, Motor Vehicle Safety Office, promulgated by Department of Transportation (DOT)

RECEIVED
By SBRRB at 6:55 am, Jul 03, 2024

PRE-PUBLIC HEARING SMALL BUSINESS IMPACT STATEMENT TO THE SMALL BUSINESS REGULATORY REVIEW BOARD

(Hawaii Revised Statutes §201M-2)

Date: 7/2/2024

Department or Agency: Transportation

Administrative Rule Title and Chapter: Title 19 Subtitle 5 Motor Vehicle Safety Office

Chapter Name: Chapter 133.2 Periodic Inspection of Vehicles

Contact Person/Title: Toby Wakumoto/Highway Safety Manager

E-mail: toby.r.wakumoto@hawaii.gov Phone: 808-692-7656

A. To assist the SBRRB in complying with the meeting notice requirement in HRS §92-7, please attach a statement of the topic of the proposed rules or a general description of the subjects involved.

B. Are the draft rules available for viewing in person and on the Lieutenant Governor's Website pursuant to HRS §92-7?

☑ Yes ☐ No

If "**Yes**," provide details: It will be posted on the DOT website and available in-person

I. Rule Description:

☐ New ☐ Repeal ☑ Amendment ☐ Compilation

II. Will the proposed rule(s) affect small business?

☐ Yes ☑ No

(If "**No**," no need to submit this form.)

* "Affect small business" is defined as "any potential or actual requirement imposed upon a small business . . . that will cause a direct and significant economic burden upon a small business, or is directly related to the formation, operation, or expansion of a small business." HRS §201M-1

* "Small business" is defined as a "for-profit corporation, limited liability company, partnership, limited partnership, sole proprietorship, or other legal entity that: (1) Is domiciled and authorized to do business in Hawaii; (2) Is independently owned and operated; and (3) Employs fewer than one hundred full-time or part- time employees in Hawaii." HRS §201M-1

III. Is the proposed rule being adopted to implement a statute or ordinance that does not require the agency to interpret or describe the requirements of the statute or ordinance?

☑ Yes ☐ No

(If "**Yes**" no need to submit this form. E.g., a federally-mandated regulation that does not afford the agency the discretion to consider less restrictive alternatives. HRS §201M-2(d))

IV. Is the proposed rule being adopted pursuant to emergency rulemaking? (HRS §201M-2(a))

☐ Yes ☑ No

(If "**Yes**" no need to submit this form.)

* * *

If the proposed rule affects small business and are not exempt as noted above, please provide a reasonable determination of the following:

1. Description of the small businesses that will be required to comply with the proposed rules and how they may be adversely affected.

   The Hawaii Department of Transportation (HDOT) is submitting this small business impact statement, for the proposed rule changes of the Hawaii Administrative Rule (HAR), Title 19, Chapter 133.2, Section 22, titled Periodic Inspection of Vehicles, to implement the proposed increase in cost for safety inspections and the increase in the vendor's cost.

2. In dollar amounts, the increase in the level of direct costs such as fees or fines, and indirect costs such as reporting, recordkeeping, equipment, construction, labor, professional services, revenue loss, or other costs associated with compliance.

   Per HAR 19-133.2(22)(a) the director shall determine the maximum fee to be paid to the inspection station by the vehicle owner for the inspection of the vehicle.

   If the proposed rule imposes a new or increased fee or fine:

   a. Amount of the current fee or fine and the last time it was increased.

      $25.00 plus tax for vehicles/$17.00 plus tax for motorcycles.

   b. Amount of the proposed fee or fine and the percentage increase.

      $25.75 (3%) plus tax for vehicles/$17.75 (4.4%) plus tax for motorcycles

   c. Reason for the new or increased fee or fine.

      The vendor has increased their fees for services by $0.75 per inspection They vendor's fees have increased from $1.34 to $2.09 per inspection.

   d. Criteria or methodology used to determine the amount of the fee or fine (i.e.,

      Consumer Price Index, Inflation rate, etc.).

      HDOT and the vendor have agreed to these terms in the new contract.

3. The probable monetary costs and benefits to the agency or other agencies directly affected, including the estimated total amount the agency expects to collect from any additionally imposed fees and the manner in which the moneys will be used.

   This increase in the fees for the safety inspection will be used to compensate the vendor's increase for their services. The DOT solicited bids for an automated PMVI program through a competitive sealed bid process. It should be noted that all bids received increased the cost of services.

4. The methods the agency considered or used to reduce the impact on small business such as consolidation, simplification, differing compliance or reporting requirements, less stringent deadlines, modification of the fines schedule, performance rather than design standards, exemption, or other mitigating techniques.
   This increase in fees should not impact small businesses.

5. The availability and practicability of less restrictive alternatives that could be implemented in lieu of the proposed rules.
   NA

6. Consideration of creative, innovative, or flexible methods of compliance for small businesses. The businesses that will be directly affected by, bear the costs of, or directly benefit from the proposed rules.
   The businesses may pass this fee increase to the consumers.

7. How the agency involved small business in the development of the proposed rules.
   HDOT did not involve small businesses in the development of the proposed rule change.

   a. If there were any recommendations made by small business, were the recommendations incorporated into the proposed rule? If yes, explain. If no, why not.

   There were no direct impact on the safety inspections stations since there was added language to HAR 133.2(22) that increases the maximum amount an inspection station could charge to compensate for the vendor's price increase for services.

8. Whether the proposed rules include provisions that are more stringent than those mandated by any comparable or related federal, state, or county standards, with an explanation of the reason for imposing the more stringent standard.
   NA

   If yes, please provide information comparing the costs and benefits of the proposed rules to the costs and benefits of the comparable federal, state, or county law, including the following:

   a. Description of the public purposes to be served by the proposed rule.

   b. The text of the related federal, state, or county law, including information about the purposes and applicability of the law.

   c. A comparison between the proposed rule and the related federal, state, or county law, including a comparison of their purposes, application, and administration.

   d. A comparison of the monetary costs and benefits of the proposed rule with the costs and benefits of imposing or deferring to the related federal, state, or county law, as well as a description of the manner in which any additional fees from the proposed rule will be used.

   e. A comparison of the adverse effects on small business imposed by the proposed rule with the adverse effects of the related federal, state, or county law.

* * *

DEPARTMENT OF TRANSPORTATION

Amendment and Compilation of Chapter 133.2
Hawaii Administrative Rules

(Date of Adoption)

1. Chapter 133.2 of Title 19, Hawaii Administrative Rules, entitled "Periodic Inspection of Vehicles" is amended and compiled to read as follows:

"HAWAII ADMINISTRATIVE RULES

TITLE 19

DEPARTMENT OF TRANSPORTATION

SUBTITLE 5

MOTOR VEHICLE SAFETY OFFICE

CHAPTER 133.2

PERIODIC INSPECTION OF VEHICLES

Subchapter 1 General Provisions

Subchapter 2 Inspection Stations

Subchapter 3 General Procedure for Inspection

Historical note: This chapter is based substantially on chapter 19-133.1, Hawaii Administrative Rules. [Eff 3/19/87; R 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; am and comp 09/04/2021; comp]

SUBCHAPTER 1

GENERAL PROVISIONS

§19-133.2-1 Definitions. As used in this chapter:

"Ambulance" means a motor vehicle designed and equipped to provide normal and emergency transportation for persons requiring medical care.

"Autocycle" means the same as defined under paragraph (2) of motorcycle in section 286-2, HRS.

"Bus" means the same as defined in section 291C-1, HRS.

"Bumper" means the same as defined in 291.35.1, HRS.

"Certificate of inspection" or "safety inspection certificate" means a certificate printed by a certified inspector indicating that the vehicle passed the minimum requirements of the periodic motor vehicle inspection program and signed by the certified vehicle inspector who performed the inspection.

"Certified vehicle inspector" or "inspector" means a person who possesses a current, valid vehicle inspector certificate issued by the director.

"County agency" means the county department contracted by the director to have the responsibility for supervising, enforcing, and administering the periodic vehicle program in that county.

"Department" means the state department of transportation (DOT).

"Director" means the director of the state department of transportation.

"Electronic inspection form" means a computerized inspection form that lists the components to be inspected and can be filled out by electronic means and then transfer the data to a server immediately upon completion of the inspection; a certificate indicating that the vehicle passed inspection and sticker are then automatically printed.

"Electronic form contractor" means the entity that contracts with the director to implement the electronic form program.

"Glazing materials" means any glass, plastic, or like material, manufactured for use in or on a vehicle, including but not limited to windshields, window openings or interior partitions.

"Gross vehicle weight rating" (GVWR) means the weight of the vehicle plus the weight of the maximum load it is designed to carry.

"Illegal modification" means one that is contrary to what is allowed by law, ordinance or rules, or causes a safety hazard. For example, a blower that restricts the driver's view.

"Inspection station" means a place or person authorized by the director to conduct official vehicle inspections, the responsible operator of which is a certified inspector and oversees the inspection activities that take place.

"Moped" means the same as defined in section 286-2, HRS.

"Motorcycle" means the same as defined in section 286-2, HRS.

"Motor Scooter" means the same as defined in 286-2, HRS.

"Motor vehicle" means the same as defined in section 286-2, HRS.

"Neighborhood Electric Vehicle" means the same as defined in section 286-2, HRS.

"Official vehicle inspection" or "inspection" means that inspection of vehicle equipment and components as required by this chapter.

"Passenger car" means the same as defined in section 286-2, HRS.

"Periodic Motor Vehicle Inspections" (PMVI) means the intermittent observation of vehicle equipment at an official inspection station by a certified vehicle inspector for the purpose of evaluating compliance with chapter 19-133.2, HAR.

"Pole trailer" means the same as defined in section 286-2, HRS.

"Rental or U-Drive motor vehicle" means the same as defined in section 286-2, HRS.

"Responsible operator" means a certified vehicle inspector who is the inspection station owner, designated person in charge of the operations of an inspection station, or individual that applied the permit for the inspection station.

"Safety inspection sticker" or "inspection

sticker" means an official DOT sticker, which is generally affixed upon the right most nearly vertical portion of the rear bumper indicating the month and year of expiration of the current certificate of inspection.

"Semitrailer" means the same as defined in section 286-2, HRS.

"Special interest vehicle" means the same as defined in section 286-2, HRS.

"State" means the State of Hawaii.

"Sun screening devices" means as defined in section 291-21.3, HRS.

"Taxicab" means any motor vehicle for hire designed to carry seven passengers or less, operating on call or on demand, accepting any passenger with or without baggage for transportation on the public highways as directed to a destination by the passenger or on behalf of the passenger and the charges for service are being recorded by a taximeter, based upon the distance traveled, plus waiting time, if any, or the combination of distance traveled and time elapsed.

"Trailer" means the same as defined in section 286-2, HRS.

"Truck" means the same as defined in section 286-2, HRS.

"Truck-tractor" means the same as defined in section 286-2, HRS.

"Vehicle" means the same as defined in section 286-2, HRS. [Eff 7/31/89; am and comp Dec 02, 2005; comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-2, 286-16, 286-26, 291-21.5)

§19-133.2-2 Scope of chapter. (a) This chapter shall apply to all motor vehicles and trailers except those which are subject to the motor carrier safety law, part XI, chapter 286, HRS.

(b) This chapter shall also apply to:

(1) The registered owner of any motor vehicle or trailer operated on the public highways in the State;
(2) Every person who operates or parks any motor vehicle or trailer on a public highway in the State;
(3) Every official inspection station; and
(4) Every person who conducts official vehicle inspections.

(c) This chapter shall not apply to:
(1) Any vehicle owned and operated by an agency of the federal government, provided that such vehicle, when operated on the public highways carries a certificate within the vehicle showing that the vehicle has been inspected and certified under an equivalent periodic inspection program operated by the federal government;
(2) Military vehicles owned and operated by the armed forces of the United States which are manufactured for, and sold directly to the armed forces in conformity with military contractual specifications; and
(3) Farm tractors, implements of husbandry, and special mobile equipment temporarily drawn, moved, or otherwise propelled on the public highways and which are not required to be registered and licensed. [Eff 7/31/89; am and comp Dec 02, 2005; comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; comp 09/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-3 Inspection and certification of vehicles. (a) All ambulances shall be inspected and certified once every six months.

(b) All taxicabs shall be inspected every 12 months.

(c) All other vehicles, including motorcycles, trailers, semi-trailers, and pole trailers shall be

inspected and certified every twelve months, except that vehicles over 10,000 pounds GVWR without a DOT exemption from the motor carrier program must be inspected under that program, and new non-motor carrier vehicles shall be inspected on or before the date they are first sold and then every twelve months two years after the date they are first sold. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; comp 09/04/2021; comp] (Auth: HRS §§286-18, 286-26, 286-202) (Imp: HRS §286-26, 286-202)

§19-133.2-4 Administration and enforcement.

(a) The director shall administer and enforce this chapter with respect to the certification of inspection stations, inspectors, and vehicles.

(b) The director shall be responsible for:

(1) Issuing permits for and the furnishing of instructions and necessary forms to official inspection stations, provided electronic inspection form equipment shall be provided by the electronic form contractor;

(2) Supervising and inspecting official inspection stations;

(3) Certifying persons as being authorized to conduct inspections;

(4) Fining, suspending or revoking permits issued to a station and certification of persons authorized to conduct inspections whenever the director determines through inspection or investigation that the station or inspector is not properly conducting inspections in accordance with this chapter; and

(5) Electronic flagging of vehicles that passed inspection when they should have failed or not been inspected at all. These vehicles include off-road vehicles and military vehicles that were not manufactured to comply with FMVSS. This flag shall be

placed in the State registration database and the State electronic inspection database. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and Comp 9/04/2021; comp] (Auth: HRS §286-26) (Imp: HRS §§286-26, 286-27, 286-28)

SUBCHAPTER 2

INSPECTION STATIONS

§19-133.2-5 Inspection stations; permits. The director shall be responsible for the following duties with respect to the application for an official inspection station permit:

(1) Issuing permits designating each inspection station that meets the minimum standards required by this chapter to conduct inspections;
(2) Inspecting the station facilities and equipment of each applicant to ensure that the minimum standards required by this chapter are met;
(3) Ascertaining that each applicant meets the minimum requirements of this chapter with respect to having an appropriately certified inspector in its employ;
(4) Recording the results of all inspections of station facilities and equipment of each applicant;
(5) Maintaining a file of all records for each applicant from the date of application till the date of termination;
(6) Providing official application forms for an inspection station permit; and

(7) Developing and issuing additional forms as may be necessary to administer the issuance of official inspection station permits. [Eff 7/31/89; comp Dec 02, 2005; comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §286-26) (Imp: HRS §286-27)

§19-133.2-6 Types of inspection station permits. There shall be two types of inspection station permits to be designated as:

(1) Public permits - to conduct inspections on all types of vehicles listed on the face of the permits that are presented for inspection; or

(2) Private permits - to conduct inspections only on those types of vehicles listed on the face of the permit which are owned by and registered to the owner and operator of the official inspection station or leased for the purpose of conducting the business of the inspection station, provided the business has at least 25 vehicles under the purview of the PMVI program. Any government agency may be a private station. A private station qualification shall be determined by the director. [Eff 7/31/89; comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; 9/04/2021; comp] (Auth: HRS §286-26) (Imp: HRS §286-27)

§19-133.2-7 Application for inspection station permits. Each applicant or application for certification as an inspection station shall comply with the following:

(1) Application for the permit shall be made on an official form furnished by the director.

(2) The applicant shall provide the following information:
   (A) The registered business name and trade "dba" name, when applicable, of the station;
   (B) The exact address and location of the applicant's place of business where the inspections will be conducted. (A separate application shall be made for each additional location owned or operated by the applicant which is to be certified as an inspection station);
   (C) The name of the station owner, manager, or supervisor who is a certified vehicle inspector and will be responsible and accountable for the inspections and the performance of the inspections;
   (D) The applicant's type of business; e.g., service station, car rental, repair shop, automobile dealer;
   (E) Type of permit requested (public or private);
   (F) A list of the names and inspector certificate numbers of certified inspectors presently employed by the applicant; and
   (G) Document that the station location is properly zoned, and station has any required state and county permits or licenses to conduct business as an official inspection station.

(3) The application for certification as an inspection station shall be signed by a person or persons authorized to execute documents that will bind the applicant.

[Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-8 Issuance of inspection station permits. (a) The director shall issue inspection station permits only to those applicant stations which have been certified by the director as meeting the standards set forth in this section.

(b) Each inspection station serving the public shall have a certified vehicle inspector scheduled to be immediately available at the station to conduct vehicle inspections for a minimum total of eight hours each day, five days a week between 6:00 AM and 6:00 PM, except designated holidays.

(c) A supervisor, manager, or owner of each inspection station shall be a certified vehicle inspector.

(d) Each inspection station shall conform to the following requirements:

(1) The inspection areas shall:
  (A) Have permanently constructed substantial protection from the weather;
  (B) Be designated and marked as the inspection area;
  (C) Be clean and orderly;
  (D) Have a hard level surface, such as concrete, and be in sound condition. Wood or dirt floors shall not be acceptable; and
  (E) Have a surface limited to a 2.5 per cent slope (three inches in ten feet); and
  (F) Have no hazardous conditions that may injure persons or damage the vehicle;

(2) The total interior floor area and the exterior ground space, including parking areas which are used by the public, shall be free of debris, gravel or other noxious, hazardous substances;

(3) Every inspection station shall have a vehicle headlamp test area that is flat and level within the calibration limits of the headlamp aim testing equipment; and

(4) Every inspection station shall have a contract with the electronic form contractor to implement the electronic inspection form program.

(e) Every inspection station shall have the following tools and equipment available and in good working condition at the station location:

(1) One headlamp testing device, such as a mechanical aimer, optical or photoelectric aiming device, or aiming screen of a type approved by the director (SAE J599);

(2) One vehicle end lift, vehicle hoist, drive over pit, drive-on ramp or a floor jack having a minimum lift capacity of four thousand pounds along with the required jack stands to facilitate a complete view of the underside of the vehicle to be inspected and test wheel bearings; if the station has a drive over pit or drive-on ramp, it must also have a floor jack;

(3) One flashlight or work light capable of illuminating under vehicle or engine compartment inspections;

(4) A tire tread depth gauge scored in 1/32-inch increments or fifteen centimeters scored in increments of one millimeter;

(5) A tire pressure gauge marked in pounds per square inch or its metric equivalent; and

(6) A window light transmittance meter (WTM) with a margin of error no greater than plus or minus six per cent for testing sun screening devices affixed to the glazing materials of the vehicle to be inspected; provided that the items described in paragraphs (2) and (6) shall not be required for stations which limit their vehicle inspections to motorcycles and motor scooters. Private stations that are exempt by the director from testing sun screening devices shall not be required to comply with paragraph (6).

(f) Each inspection station shall obtain and maintain a current paper copy of this chapter in good legible condition for use exclusively at the inspection station.

(g) In accordance with section 286-27(b), HRS, each public inspection station shall provide proof that there is in effect a station liability insurance policy issued to the station owner or operator by an insurance company authorized to do business in the State. If a trade "dba" name is used, the registered business name must be used with it. The policy shall insure the owner or operator and any other employees authorized to inspect vehicles in the minimum amounts of $10,000 for comprehensive public liability for one person, $20,000 for one accident, and $5,000 for comprehensive property damage. This requirement shall not apply to private stations.

(h) A DSL or higher speed internet connection to accommodate the equipment that is used in the electronic inspection form program. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-27, 291-21.5)

§19-133.2-9 Inspection station permit form. (a) The inspection station permit shall be in a form approved by the director.

(b) The following information shall appear on the face of the permit:

(1) The registered name of the person, partnership, or corporation owning and operating the inspection station;
(2) The trade "dba" name of the inspection station;
(3) The address and location of the inspection station;
(4) A permit control number;
(5) The date the permit is issued;
(6) The type of inspection station, public or

private (fleet);

(7) The type or class of vehicles the station is authorized to inspect; and

(8) The signature of the agent authorized to issue inspection station permits, with the agent's title, typed under the signature.

(c) The permit shall be posted in a conspicuous place at the location where the inspections are conducted and shall be visible to all vehicle owners who present their vehicles for inspection.

(d) The permit shall not be assigned, transferred, or used at any location other than the location listed on the face of the permit as the place where the inspection is to be conducted. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-27, 291-21.5)

§19-133.2-10 Inspector certification. The director shall be responsible for:

(1) Issuing certificates authorizing persons to conduct inspections;

(2) Administering written and performance examinations for all applicants;

(3) Recording the results of all examinations;

(4) Maintaining a record of examination results for a period of one year from the date the applicant took the examination;

(5) Maintaining a record of examination results for the entire period for which an inspector's certificate is valid;

(6) Maintaining a file for all inspectors for a period of one year after decertification; and

(7) Developing and issuing additional forms as may be necessary for administering the inspector certification process. [Eff 7/31/89; comp Dec 02, 2005; comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018;

comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-11 Application for inspector certification. (a) Application or inspector certification shall be made on a form furnished by the director.

(b) The applicant shall provide the following information on the form:

(1) Type of application (original or renewal);
(2) Applicant's last name, first name, and middle initial(s);
(3) Applicant's home address;
(4) Applicant's telephone numbers and email address;
(5) Applicant's date of birth;
(6) Type of valid Hawaii driver license and driver license number of the applicant;
(7) Applicant's technical licenses or certificates (attach copies);
(8) Proof of applicant's experience in vehicle inspection, automotive mechanics, automotive maintenance, and related automotive mechanics experience (include names and phone numbers of supervisors);
(9) Applicant's signature to the declaration that all furnished information is true, and that applicant gives the State and County permission to contact any and all persons necessary to confirm the accuracy of information provided; and that upon certification as an inspector, the applicant shall conduct inspections in accordance with this chapter; and
(10) The date the application is filed. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 09/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-12 Issuance of inspector certificates. The director shall issue official vehicle inspector certificates only to those applicants who meet the following minimum standards:

(1) Be able to read and legibly print the English language and Arabic numerals;

(2) Be at least eighteen years of age at the time the application is submitted to the director;

(3) Have a valid Hawaii driver license for the type of vehicle to be inspected;

(4) Have:

(A) One year of training in automotive mechanics, or a related technical field at a school conducting regularly scheduled classes; or

(B) Two years of practical employment experience in automotive maintenance, repair, or inspection; and

(C) Have completed a written and performance examination administered by the director. Motorcycle and moped inspectors must pass a written and performance examination specific to motorcycles or mopeds. The minimum qualifying score on these examinations shall be eighty per cent. Persons who fail a test must wait at least seven days before taking it again. A written test shall be scheduled after the application is approved. All test scores shall be recorded in the applicant's file and dated. If an applicant fails either the knowledge or practical test, the applicant must then start the testing process all over again, beginning with the knowledge test. Applicants are allowed a maximum of three knowledge or three practical tests in a one-year period. One year

after the date of the oldest of the three failed tests, a new test may be given. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-27, 291-21.5)

§19-133.2-13 Inspector certificate form. (a) The inspector's certificate shall contain the following information:

(1) The name of the person to whom the certificate is issued;
(2) The date the certificate is issued;
(3) The expiration date of the certification as an inspector;
(4) The signature and printed name of the agent authorized to issue the certificate;
(5) The number of the certificate; and
(6) The signature of the person to whom the certificate is issued.

(b) Every inspector certificate shall be displayed with the inspection station permit, in a conspicuous place, at the location where inspections are conducted. If the inspector conducts inspections at more than one location, a duplicate inspector's certificate shall be displayed at each additional location.

(c) The inspector's certificate authorizes the inspector to conduct vehicle inspections only for the vehicle types listed (motorcycles must be listed separately) and at the station locations listed on the reverse side of the certificate.

(d) Duplicate inspector certificates may be issued upon satisfactory explanation by the inspector as to what happened to the original certificate. The duplicate certificate shall contain the following information:

(1) The original certificate control number with the word "duplicate" written after the number; and

(2) The expiration date specified on the original certificate.

(e) The inspector certificate shall expire four years from the date of issuance, unless revoked or suspended by the director. Inspectors are responsible for keeping certificates current. No reminder notices will be sent to inspectors.

(f) Recertification of inspectors shall conform to the following requirements:

(1) Application for renewal of certification shall be made by the inspector not more than sixty days prior to the expiration of the certificate; and

(2) Recertification shall follow the certification procedure.

(g) Inspector's certificates issued before the effective date of this chapter shall be valid for four years from the date of issuance, unless revoked or suspended by the director.

(h) The inspector certificate shall be valid only in the county where it was issued. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-14 Inspection stations; operating procedures. (a) Official inspection stations shall be operated in accordance with this chapter and the following:

(1) Inspection stations shall be operated with reasonable regard for the convenience of the public;

(2) Inspections shall be conducted only at inspection stations which have been issued a permit by the director;

(3) Inspections shall be conducted only by inspectors who have a valid inspector's certificate; and

(4) Official inspection stations shall not allow any of their vehicles that are used to conduct business, or any vehicle their employees park at the station to be out of compliance with this chapter. Vehicles that are stored for purposes such as sale, lease or repair at stations are not subject to this paragraph.

(5) Official inspection stations shall allow agents authorized by the DOT unrestricted access during the times in section 19-133.2-8(d) to inspect equipment, inspect supplies, vehicles being inspected, certified inspectors, inspection areas, or any areas used by the inspection station as part of the inspection operation during any hours of operation for the purpose of supervising, certifying, inspecting, suspending or revoking permits or certificates, or monitoring an inspection station.

(b) The director shall provide a way for stations to obtain these rules. The director may require persons receiving rules to pay the cost of those items.

(c) Public inspection stations shall be required to post a sign clearly visible from a public area, containing the words "Official Vehicle Inspection Station", together with the identifying numbers and letters assigned to that station. The displaying of, size of the sign, and lettering thereon shall conform to all applicable requirements of the county sign ordinance.

(d) Stations shall contract with the electronic form contractor. The electronic inspection form contractor shall collect and compile information inputted by inspectors when they conduct vehicle inspections, print out a completed certificate or vehicle failure notice and a sticker, and transfer the data to a server. The DOT and county officers shall

have access to the information contained in the computerized system and be able to use it for PMVI program enforcement purposes.

(e) When photographing the front or rear angle view of a vehicle, all existing windows must be closed. The respective pictures must include the following:

(1) Front angle photograph of the vehicle must show the windshield, license plate, front bumper, wheels contacting the ground and entire side of the vehicle;

(2) Rear angle photograph of the vehicle must show the rear and side windows, license plate, rear bumper, and entire opposite side of the vehicle. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-27, 291-21.5)

§19-133.2-15 Inspection records. (a) A vehicle certificate of inspection shall be completed and signed by the certified inspector who performs or supervises the inspection for each vehicle inspected.

(b) The inspection station operator shall ensure that the owner of each inspected vehicle receives a completed certificate of inspection and has a sticker affixed to the rear of the vehicle or receives a notice of vehicle failure. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; am and comp 9/4/2021; comp] (Auth: HRS §§286-17, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-27, 291-21.5)

§19-133.2-16 Supervision of inspection stations. The director shall exercise supervisory control over all inspection stations. This supervisory function

shall include, but not necessarily be limited to the following activities:

(1) Issuing instructions and any forms as may be required for:
    (A) Proper use of the electronic inspection form equipment;
    (B) The proper entry of data by inspection station operators;
    (C) The use and condition of inspection station facilities and equipment used in the inspection of vehicles;
(2) Monitoring and inspecting inspection stations to:
    (A) Evaluate the procedures used in the inspection of vehicles;
    (B) Evaluate the condition of vehicle inspection facilities and equipment used in vehicle inspections;
    (C) Evaluate the condition and accuracy of test equipment used in vehicle inspections;
(3) Analyzing official vehicle inspection data to evaluate the performance of inspection stations and take appropriate action as may be indicated;
(4) Preparing and maintaining appropriate records for each inspection station; and
(5) Preparing a report at the end of each quarter covering periodic vehicle inspection activities. This report shall contain, but is not necessarily limited to, the following:
    (A) The number of vehicle inspection station investigations conducted;
    (B) The number of official inspection station permits suspended;
    (C) The number of official inspection station permits revoked;
    (D) The number of active official inspection stations;
    (E) The number of inspector certificates suspended;

(F) The number of inspector certificates revoked;
(G) The number of active certified inspectors;
(H) The number of inspectors investigated;
(I) The number of inspection stations monitored; and
(J) The number of inspectors monitored.
[Eff 8/31/89; comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-17 Enforcement. The director shall fine, suspend or revoke inspection stations or inspectors in accordance with this chapter and chapter 19-133.5, when it finds that an inspection station or inspector is not in compliance with the appropriate rules. The director shall adopt rules pursuant to chapter 91 HRS, to govern fines, suspensions and revocations. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; am and comp 9/4/2021; comp] (Auth: HRS §§286-18, 286-26, 286-28) (Imp: HRS §§286-16, 286-27, 286-28)

§19-133.2-18 Operating procedures for inspectors. Inspectors shall conduct all inspections in accordance with this chapter and the following:

(1) No person shall claim to be an inspector or issue any official inspection certificate and sticker unless that person possesses a current, valid, inspector certificate to conduct inspections of the vehicle type and at the inspection station location indicated on the certificate;
(2) Certified inspectors shall be the only persons authorized to fill out and sign the inspection certificate and issue and affix

an inspection sticker to a vehicle after successful completion of the inspection;

(3) A certified inspector may be assisted by a noncertified person when conducting an inspection, provided that the noncertified person and inspector must work together and at the same time on the same vehicle when doing an inspection as a means of training a potential inspector. Persons being trained to be a certified inspector must take the inspector test no later than thirty days after the start of training. If the person fails the test, the person is no longer considered to be in training and shall not assist with inspections;

(4) Any inspector, working at a public inspection station, shall not require unnecessary repairs, make excessive charges, or act abusively to customers seeking inspection certification for their vehicles;

(5) Certified inspectors shall not allow their personal vehicles that they park at the inspection station of their employment to be out of compliance with motor vehicle equipment and inspection rules and laws; and

(6) Certified inspectors shall not make modifications to any vehicle that would make the vehicle noncompliant with motor vehicle inspection rules and laws. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

§19-133.2-19 Supervision of inspectors. The director shall exercise control over all inspectors. This supervisory function shall include, but is not necessarily limited to, the following activities:

(1) Examining and qualifying all inspector applicants;
(2) Issuing forms as may be required;
(3) Monitoring inspection activities of inspectors; and
(4) Conducting investigations of reported or suspected improper inspection activities.

[Eff 7/31/89; comp Dec 02, 2005; comp 8/13/2011; am and comp Nov 1, 2013; comp 9/30/2018; comp 9/4/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-27)

SUBCHAPTER 3

GENERAL PROCEDURE FOR INSPECTION

§19-133.2-20 Application for inspection certification. (a) Any vehicle owner or operator shall be allowed to make an appointment with any public inspection station for inspection of a vehicle.

(b) Any vehicle owner or operator shall not be obligated to have any repair work performed at the station where the inspection is made.

(c) Modified or reconstructed vehicles shall be required to meet all county agency reconstructed vehicle inspection requirements other than the registration requirements for the county in which it is operated prior to the inspection done pursuant to this chapter. [Eff 7/31/89; am and comp Dec 2, 2005; am and comp 8/13/2011; comp 11/1/2013; comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-21 Causes for refusal to inspect. An inspection station may refuse to inspect any vehicle which contains foul or obnoxious material or whenever

the performance of any visually inspectable component cannot readily be determined because of an accumulation of dirt, grease, or other foreign material. [Eff 7/31/89; comp Dec 02, 2005; comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-22 Inspection fees. (a) The director shall determine the maximum fee to be paid to the inspection station by the vehicle owner for the inspection of a vehicle. This fee shall include the administrative and enforcement fees paid to the DOT by the inspection station operator, and a fee for the electronic inspection form program.

(b) When an application for certification of inspection is made at an inspection station, an inspector may first collect the inspection fee, then conduct the inspection pursuant to this chapter using the electronic form checklist to perform the inspection.

(c) If more than thirty days have elapsed since the applicant vehicle failed to qualify for certification, a complete inspection shall be made of the entire vehicle, and the full fee for another inspection may be charged by the inspector.

(d) An inspection station may charge a maximum fee determined by the director for the replacement of destroyed, stolen or lost inspection certificate and sticker.

(e) An inspector may charge the following inspection fees:

(1) Automobiles and trucks not more than [~~$25.00~~] $25.75 plus tax;

(2) Motorcycles and trailers not more than [~~$17.00~~] $17.75 plus tax;

(3) The director shall collect from the operator of an official inspection station no later than seven calendar days after the end of the month the sum of $1.70 per vehicle inspection from the above charged fees which

shall be expended for administrative and enforcement purposes. The director may arrange for this fee to be collected by the electronic form contractor along with the contractor's fee and forwarded to DOT;

(4) The electronic form contractor shall collect monthly from the operator of an official inspection station no later than seven calendar days after the end of the month a fee of no more than [~~$1.34~~] $2.09 per vehicle inspected and replacement sticker and certificate issued[~~and;~~]; and

(5) A fee of not more than [~~$6.34~~] $7.09 ([~~$1.34~~] $2.09 of which is due to the electronic forms contractor) may be charged by the operator of an inspection station for replacement of destroyed or lost inspection sticker or certificate, both of which will be replaced with the same transaction. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018, 9/04/2021; am and comp](Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-23 Failure to qualify for certification and correction of defects. (a) When a vehicle fails to pass an inspection for certification in accordance with this chapter, a notice of inspection failure shall be signed and the authorized sticker shall not be affixed to the vehicle.

(b) A signed notice of failed inspection with the inspector's number shall be given to the applicant after the inspection, so that corrective repairs may be done on the vehicle.

(c) If the applicant refuses to have the corrective repairs done immediately, the applicant shall have thirty days to have the deficiencies corrected and returned to the station for reinspection of the defective items without additional cost.

(d) If, after corrective repair within the thirty-day period, the vehicle is found to qualify for certification, the certificate of inspection shall be completed by the inspector and issued to the applicant and a sticker affixed to the vehicle in accordance with this chapter. If a different inspector passes the vehicle after inspecting the defects, that inspector's number shall be placed in the other "Inspector Number" boxes on the form. No additional fee shall be charged.

(e) This section does not authorize anyone to operate a vehicle on the public highways without a valid certificate of inspection or with an expired certificate. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-24 Issuance of certificates of inspection and affixing of inspection stickers. (a) When the vehicle's equipment is inspected pursuant to this chapter and found to qualify for certification, the certificate of inspection shall be signed by the inspector who performed the inspection.

(b) After the certificate of inspection is signed, an inspection sticker shall be affixed by the inspector upon the right, most nearly vertical portion of the rear bumper of the vehicle or on another appropriate place, such as, a special bracket installed under the right portion or center of the rear bumper or a bracket attached to the rear license plate oriented so the sticker can be clearly viewed by a person who is fifty feet behind the vehicle. The rear window or the face of the license plate is not an appropriate place. If the bracket is attached vertically, month number must be above the year number.

(c) All expired or replaced inspection stickers appearing on the vehicle shall be removed and destroyed, unless the driver requests that the new

sticker be placed over the old one in such a way that only the new one is visible.

(d) Inspection computers, scanners, printers and supplies shall not be transferred to another inspection station nor shall the inspection sticker or certificate be issued by an unauthorized person or issued at any location other than where the inspection is authorized to be conducted. If a business discontinues being a PMVI station, the electronic form contractor shall remove all free equipment and unused supplies it provided to the station.

(e) Inspection computer, scanner, printer and supplies in the station inventory shall be securely stored. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-21.5) (Imp: HRS §§286-16, 286-26, 291-21.5)

§19-133.2-25 Replacement of lost, stolen, or destroyed stickers or certificates. (a) Inspection stickers or certificates which have been lost, stolen, or destroyed shall be replaced without reinspection by the inspection station that issued the original inspection certificate and sticker provided that the current certificate of inspection shall not have expired and no readily obvious defects exist at the time replacement is requested.

(b) Reinspection shall be required if there is no evidence of a current inspection and issuance of a certificate of inspection.

(c) The inspector shall access the electronic inspection file to print a new sticker and certificate; the computer will make an electronic note of the date when a replacement sticker and certificate were issued. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-25.5 Validity period of stickers for new Vehicles. New vehicles shall be inspected on or before the date of their first sale but shall not be required to have annual inspections as provided in section 286-26(b), HRS until two years after the initial inspection. [Eff and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-26 Items to be inspected. Evidence of the vehicle's registration and the following original equipment items meeting requirements on the date of manufacture of the vehicle, plus all additional items subsequently required or permitted to be installed that require inspection, shall be inspected on all passenger vehicles, trucks, trailers, buses, and motorcycles presented for inspection:

(1) Steering and suspension systems;
(2) Tires;
(3) Wheels;
(4) Brakes;
(5) Lamps and reflectors;
(6) Horns;
(7) Glazing materials (windshield and windows);
(8) Body and interior components;
(9) Exhaust system;
(10) Intake and fuel system;
(11) Speedometer-odometer; and
(12) Drive train.

Vehicles must be inspected in the station inspection bay, except vehicles returning for reinspection after a failure need not be inspected in the bay, unless a failed item cannot be tested outside of the bay. Trailers and vehicles too large to fit in the bay may also be inspected while out of the bay. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26)

(Imp: HRS §§286-16, 286-26)

§19-133.2-27 Inspection of vehicle registration, license plate, vehicle identification number, and proof of insurance. (a) The vehicle license number and vehicle identification number (VIN) shall be inspected for agreement with the corresponding numbers shown on the current year's valid registration certificate. An original of the Hawaii motor vehicle insurance identification card (an electronic card as described in section 431:10C-107, HRS is considered an original, provided the card may be accessed directly through the licensed insurer's website, application, or database) or a certificate of self-insurance issued by the State of Hawaii Insurance Commissioner is also required. Out-of-state vehicles must have an original Hawaii insurance identification card and a current temporary or permanent Hawaii registration. License plates shall be inspected for condition, legibility, proper location and security of mounting. Documents for registration, insurance, motor carrier exemption, when applicable, and reconstructed vehicle permit, when applicable shall be photographed by the inspector and stored in the repository of the electronic form contractor;

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) There is no proof of a current Hawaii registration certificate or a current original vehicle insurance identification card, a fleet insurance card or certification of self-insurance is not available; Fleet vehicles owned by a leasing company do not need the name on the fleet insurance document to match the name on the registration document.

(2) The VIN on the vehicle is not in agreement with the VIN on the registration certificate and VIN on the vehicle insurance identification card;

(3) License plate numbers or validation sticker numbers are not in agreement with the registration certificate;
(4) Any license plate cannot be illuminated per 291-31, HRS, is missing, loosely or improperly mounted (so that it swings or can be removed without tools), not legible, or obscured from visibility, not located in the place provided by the manufacturer, or in the absence of such a location upon the bumper (Section 249-7(b), HRS).
(5) The description of the vehicle on the insurance card does not match the registration, for example, if the insurance describes the vehicle as a 2 door Volkswagen and it is registered as a street rod replica dune buggy, the insurance shall be defective. [Eff 8/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; am and Comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-28 Inspection of steering and suspension systems. (a) The steering and suspension systems shall be inspected for excessive play, binding, damages, worn parts, wheel bearing looseness, missing components and illegal modifications.

(b) No certificate of inspection shall be issued if any of the following occurs:
(1) There is excessive steering wheel or handlebar free play;
(2) The steering wheel or handlebar binds or locks-up when turning from right stop to left stop;
(3) The steering linkages or tie rod ends are excessively worn indicated by looseness when the front wheels are not supporting any weight;
(4) The steering linkages are damaged;

(5) Suspension system components, are visibly excessively worn, missing, broken, or out of proper adjustment;
(6) Suspension system attachments or mounting bolts are damaged, excessively worn, improperly installed, or of the wrong type or size;
(7) Shock absorbers must be installed and must not have severe fluid leaks (slight dampness is ok) or loose or broken mountings;
(8) Steering wheel is replaced with one with a diameter less than 13 inches or with a wheel that is not OEM or OREP. On Oahu, vehicles with a modified steering wheel that is not OEM or OREP must have a reconstructed vehicle certification before passing the inspection of this chapter; and
(9) The power steering pump mounting is loose, or the belt is badly worn or has improper tension (greater than 1/2-inch movement with about 10 pounds of thumb pressure between two pulleys). [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-29 Inspection of tires. (a) Tires shall be inspected for wear, damage, proper size, type, and tread configuration.

(b) No certificate of inspection shall be issued if any of the following occurs:
(1) A tire is worn so that less than 2/32-inch tread remains when measured in any two adjacent major grooves or the tread wear indicators in any two adjacent major grooves are level with the tread surface (minimum tread depth for motorcycle tires is 1/32-inch);

(2) A tire has bumps, bulges, cuts, snags, knots indicating partial failure or structure separation, cracks in excess of one inch in any direction and deep enough to expose the cords, tire aging and degradation are evidenced by many cracks on the side wall and the tire is more than ten years old, or is regrooved or recut below original depth. A tire which is specifically designed and marked for regrooving shall not be grounds for a refusal to issue a certificate if it is regrooved or recut below original depth; provided that the tire does not suffer from any of the other foregoing defects;

(3) Tires of different sizes or types (bias ply and radial) are mix mounted on the same axle, disregarding brand name or tread design;

(4) A tire has a load capacity rating less than that recommended by the vehicle manufacturer or less than one half of the Gross Axle Weight Rating (GAWR) of the axle on which it is mounted, or can rub or touch other parts of the vehicle when operated;

(5) A tire does not display the "DOT" symbol on the sidewall, is marked or manufactured "For Farm Use Only", "Off-Highway Use only", "For Racing Use only", or other nonpublic road use;

(6) A tire is not marked with the standard automotive size designation, does not have highway-type design treads, or the tire tread is equipped with metal studs;

(7) A tire is mounted on a rim of a size other than what is recommended by the tire manufacturer. The burden of proof is on the vehicle owner; and

(8) A tire has severe sidewall cracking that exposes chord fabric; a tire with severe sidewall cracking should be failed even without chord exposure, if it is over 10 years of age. [Eff 7/31/89; am and comp Dec

02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-30 Inspection of wheels. (a) Wheels shall be inspected for damage, missing parts, and security of mounting.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) Wheel bolts, nuts, studs, or lugs are loose, missing, or damaged;

(2) A wheel is bent, cracked, repaired by welding or brazing, damaged, or has elongated or oversize mounting holes; or

(3) Wheel rims or locking rings are mismatched, damaged, bent, sprung, cracked, repaired by welding or brazing, or improperly installed.

[Eff 7/31/89; comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp; 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-30.5 Inspection of drive train. The drive train shall be inspected for damage that could lead to a part failure or compromise performance. No certificate of inspection shall be issued if:

(1) Any constant velocity (CV) joint boot is worn or damaged to the extent that it is leaking or missing. A slight leaking caused by the clamps not achieving a perfect seal is not cause for failure;

(2) Any component is severely damaged, worn or insecurely mounted;

(3) Starter operates with gear selector in a forward or reverse gear (automatic transmission only). This paragraph applies only to initial start-up for vehicles with

automatic start/stop technology; or

(4) Adjustable wheel bearings are not properly adjusted and secured as indicated by excess movement when alternating pressure is applied to the top and bottom of an unloaded wheel. Fail the bearings if there is 1/8-inch or more movement and the bearings make a grinding sound when wheel is moved. Properly adjusted bearings that are in good condition allow virtually no movement. Bearings designed to allow movement allow no more than .005 inch of end play. Non-adjustable bearings should have no play.

[Eff and comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-31 Inspection of brakes. (a) Service and parking brake systems shall be inspected for parts and performance.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) The brake pedal height decreases when the pedal is depressed, and light pulsating pressure is applied to the brake pedal;

(2) Excessive brake pedal travel (more than one inch) is required to apply brakes, or the reserve distance between the pedal and the floor is less than 1.5 inches;

(3) The steering wheel moves abruptly to left or right of center or the brake response suggests that the pads are worn too low (such as screeching of pad wear indicator) or the rotors are warped (such as pulsating brake pedal) when the brake is applied at four to eight miles per hour on a clean, smooth, level, dry, hard surface or the brake pad wear warning light is lit;

(4) There is visible indication of hydraulic

fluid leakage around reservoir, cylinders, calipers, backing plates, tubing, hoses, or connections;

(5) The parking brake, when applied on a level dry surface, cannot hold the vehicle in place with transmission in low range and engine RPM increased to double idle RPM, or the brake failure warning light does not go out when the parking brake is released. Some vehicles with electric parking brakes (EPB) can be checked in a similar manner, but if a vehicle has a system that deactivates the EPB when the accelerator is pressed, the brakes can be checked by activating them when the vehicle is moving about 2 or 3 mph.

(6) Required brake hardware is incomplete or not properly installed;

(7) Brake hose or line is mounted in a manner that will cause premature wear or failure;

(8) There is no downward movement of the brake pedal when engine starts (use this criterion only if the vehicle has a vacuum assist brake booster installed);

(9) The brake pad wear warning light remains illuminated after the computer completes its checks when the ignition is turned on;

(10) A brake rotor has substantial cracks extending to the edge; disc is deeply scored or grooved, the friction surface is contaminated with oil, grease or brake fluid; or

(11) Brake tubing or hose is damaged so as to significantly hinder the flow of fluid or it is leaking. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp; 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-32 Inspection of lamps and reflectors. (a) Lamps and reflectors shall be inspected for function, location, color, brightness, and damage. Headlamps shall, in addition, be tested for aim and operation, and operation of the high beam indicator.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) Any required lamp or reflector (See Exhibit A) is missing, damaged so that light shines directly through the damaged portion of the lens (placing tape over the damaged portion of the lens is not adequate to pass the inspection) or moisture is present inside the lens, not properly installed, not of an approved type or color, obscured in any manner, inoperable, or any lens is covered with material that will diminish the function of the lens so as to put it out of conformance with Federal Motor Vehicle Safety Standards and County ordinance (the burden of proof of conformance is on the vehicle owner);

(2) The reverse light stays on in any gear position other than reverse;

(3) Headlamps are not of equal candle power and cannot produce a light sufficient to reveal any person or object straight ahead for a distance of two hundred feet;

(4) Headlamps are not properly aimed or the headlamps or ballast is not certified to comply with FMVSS 108, Table III. Imported vehicles that are at least 25 years old are not required to have the DOT marking, provided the headlamp is the same as or equal to the original. If the vehicle has the steering wheel on the right side of the car, the headlamps must be properly aimed for driving on the right side of the road;

(5) The high beam lamp or indicator lamp is inoperative;

(6) Headlamp height is lower than 22 inches or higher than 54 inches; or

(7) The vehicle has a lamp that casts red light toward oncoming traffic, or casts blue light that is visible to traffic, except on authorized vehicles. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp; 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-33 Inspection of horns. (a) Horns shall be inspected for operation and audibility

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) A horn is inoperative or not appropriately audible;

(2) The location of the horn switch is not readily accessible to the operator; or

(3) Sirens, bells and other excessively loud warning devices, such as air horns (on small vehicles) are installed, except on emergency vehicles. [Eff 7/31/89; am and comp Dec 02, 2005; comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp; 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-34 Inspection of glazing materials. (a) Vehicle glazing materials (windshield and window glass or other materials) shall be inspected as follows:

(1) Glass, plastic, or other material used in windshields and windows shall be inspected for type, damage, obstruction, and tinting;

(2) The window adjacent to the driver shall be inspected for operability (so that in the event of a turn signal malfunction, hand signals can be made);

(3) Any aftermarket sun screening device installed on the glazing material shall be inspected with a window light transmittance meter certified by its manufacturer for conformance with the minimum light transmittance requirements under section 291-21.5, HRS. The meter readings shall be photographed and recorded as a comment and retained in the inspection database; and

(4) Any sun screening device installed on a windshield that does not have an AS-1 mark, may be no more than 4 inches below the top of the windshield, when measured from the middle point of the bottom edge of the top windshield molding.

(5) Inspection photographs shall be taken with all windows in the closed position, unless the windows are inoperative and noted as such.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) Glazing materials required by law or rules are not present in specified locations;

(2) Glazing materials installed on a vehicle do not comply with the standards set forth in:

(A) Title 49, Chapter V, Part 571, subpart 205, section 571.205 of the Code of Federal Regulations that existed on the date the vehicle was manufactured;

(B) American National Standard, 226.1-1977, approved January 26, 1977 and supplemented by Z26.1a-1980, approved July 3, 1980; or

(C) Society of Automotive Engineers Handbook, section J1203, as this publication existed on February 11, 1993;

(3) Non-transparent materials are used in place of the required type of glazing materials;

(4) The window adjacent to the driver cannot be lowered to the down position (other windows are not required to be operable and a

vehicle may be passed with open spaces where glazing was originally installed, except that vehicles built on a car, truck or bus chassis must have a windshield);

(5) Decals or stickers are displayed on the glazing material in areas not permitted by law, ordinances, or rules;

(6) There is damage to the windshield that adversely affects driving visibility;

(7) There is damage to the windows to the immediate left or right of the driver, or to the rear that adversely affects driving visibility;

(8) Any window is broken and has sharp, exposed edges;

(9) Sun screening

(A) The sun screening device applied to the glazing material does not comply with the minimum light transmittance requirements under section 291-21.5, HRS, provided any sun screening applied to the windshield in the AS-1 area must have 70% light transmittance as indicated by the meter; inspectors are not to add six percentage points to the reading as is done on the side and rear windows;

(B) All official inspection stations shall possess and use a window light transmittance meter to inspect the aftermarket sun screening device affixed to the vehicle's glazing material for compliance with the minimum light transmittance requirement under section 291-21.5, HRS;

(C) No inspector shall use a window light transmittance meter to certify light transmittance unless the meter has been certified for performance and accuracy by the manufacturer to accurately measure light transmittance with a margin of error that conforms to

section 291-21.5, HRS. Each official inspection station is responsible for ensuring that all window light transmittance meters used by its inspectors accurately measure light transmittance with a margin of error that is no greater than plus or minus six percent; or

(10) A rear window with aftermarket tinting on 2013 model year vehicles and newer has tint over the portion through which the high mounted stop light shines. [Eff 7/31/89; am 3/31/94; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 09/04/2021; comp] (Auth: HRS §286-18, -26, 291-21.5) (Imp: HRS §§286-16, 286-26, 291-21.5)

§19-133.2-35 Inspection of body and interior components. (a) Body and interior components shall be inspected as follows:

(1) Exterior and interior rear view mirrors shall be inspected for location, field of view, condition, mounting, ease of adjustment, holding the adjustment, and exposed sharp edges;

(2) Windshield wipers and washers shall be inspected for proper operation, blade size and condition, and missing or damaged components;

(3) Body parts shall be inspected for damage, looseness, improperly assembled parts, illegal modifications or replacement parts, protrusions that have potential for causing damage, or the vehicle frame or unibody structure has visible collision damage, serious rust damage, cracks, dents or modifications that could, in the inspector's opinion, compromise the structural integrity of the vehicle;

(4) Bumpers shall be inspected for installation, condition, hazardous protrusions, sharp edges, and conformance with the requirements pursuant to section 291-35.1, HRS (22 inches maximum height for cars, 29 inches for vehicles with a GVWR of 4,500 pounds or less, 33 inches for GVWR of 4,501 pounds through 7,500 pounds, and 35 inches for GVWR of 7,501 pounds through 10,000 pounds) and County ordinances that require both front and back bumpers. The vehicle frame rail, measured from a level ground surface to the bottom of the vehicle frame rail, shall not exceed the bumper height of section 291-35.1, HRS, and the maximum distance between the vehicle body and the frame rail shall not exceed three inches;

(5) Fenders shall be inspected for proper installation, condition, looseness, size (tire treads must be covered), hazardous protrusions, sharp edges, and illegal modifications;

(6) Doors shall be inspected for operations and primary and secondary latching. Forward opening hood or trunk lids shall be inspected for proper operation and condition of the latch, secondary or safety catch, and latch release mechanism;

(7) Seats shall be inspected for proper installation, operation of the adjustment mechanism, and condition of anchor bolts. Seat belts and shoulder harness, when required, shall be inspected for condition of belt webbing, missing belts, inoperative buckles, loose, missing, or unfastened belt anchorages, altered or modified seat belt anchorages, and belts that do not comply with FMVSS 209. Seat belt retractors shall be inspected for proper functioning;

(8) A vehicle equipped with air bags may pass inspection if the bags are not fully functional, provided the seat belts pass

inspection and a warning that there is a problem with the supplemental restraint system is printed on the inspection certificate;

(9) Battery must be properly secured, free of leaks and wires free of potential short circuits;

(10) Floor pan shall be capable of supporting passengers and cargo and preventing exhaust gas from leaking into occupant compartment; and

(11) Vehicle frame or unibody structure shall be visually inspected for any collision damage, serious rust damage, cracks, dents or any modifications that could, in the inspector's opinion, compromise the structural integrity or safe operation of the vehicle.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) Any rear-view mirror required by the vehicle's FMVSS certification, law or ordinance is insecurely mounted, missing, offers unsafe interference with the driver's vision or does not provide a clear view of the highway for a distance of at least two hundred feet to the rear of the vehicle; a mirror does not hold adjustment. If a vehicle's FMVSS certification was made with two or three mirrors, the vehicle must have two or three mirrors to pass inspection;

(2) Windshield wipers and washers:

(A) Are inoperative;

(B) Wipe too slow;

(C) Have blades that smear or severely streak the windshield after five cycles;

(D) Have blades that do not completely clear water from wiped area;

(E) Have blades that are of improper size; or

(F) Have parts of wiper arms missing or damaged to the extent that performance

is impaired;

(3) Any body parts are improperly installed, dislocated, or protruding from the exterior surface of the vehicle presenting a safety hazard; on Oahu only, the body was modified significantly but there is no reconstructed vehicle inspection sticker and permit;

(4) Bumpers:
  (A) Do not conform with the requirements of the law (section 291-35.1, HRS);
  (B) Are not securely installed or mounted; or
  (C) Are damaged to the extent that sharp edges or protrusions are hazardous to persons accidentally coming in contact with the bumper;
  (D) A lift is installed that makes the distance between the vehicle body and the frame rail exceed three inches;

(5) Fenders:
  (A) Do not cover the entire width of the tire tread when viewed from above the fender and cover that portion of the tire circumference from vertical to 75 degrees to the rear of a vertical line through the center of the wheel hub;
  (B) Are missing, not permanently attached or not made of material that will withstand the intended use; or
  (C) Are damaged to the extent that sharp edges or protruding portions could inflict additional injury to someone hit by the vehicle;

(6) Door:
  (A) Does not latch in the fully closed position; the primary or secondary latch does not function properly;
  (B) Is missing;
  (C) Is not properly installed; or
  (D) Will not operate properly;

(7) The floor pan is rusted through to the extent that:

(A) The occupants or cargo would not be adequately supported; or
(B) Exhaust fumes can enter the interior of the vehicle;

(8) Seats that:
(A) Are not securely fastened to the floor;
(B) Have seat adjusting mechanisms that slip out of the set position;
(C) Have seat belt assemblies which are not securely anchored or the original anchorage position has been relocated, altered or modified;
(D) Have seat belt webbings that are deteriorated or frayed to the extent that belt effectiveness appears to be significantly compromised;
(E) Have seat belt buckles which do not function properly;
(F) Have a seat belt assembly missing on vehicles required by law to have that assembly; or
(G) Have seat belts that are not an approved type:
(H) Do not comply with FMVSS 209 or parts are missing from the seat belt assembly;

(9) The vehicle frame or unibody structure has visible collision damage, serious rust damage, cracks, dents or modifications that could, in the inspector's opinion, compromise the structural integrity of the vehicle; or

(10) Battery and wiring:
(A) Battery is not properly mounted to the vehicle or terminals are severely corroded;(B) A wire connection is loose or wire insulation is damaged so it has potential for causing a short circuit; or
(B) Battery is leaking, not securely mounted to the vehicle with battery securing hardware, or a cell vent cap

is missing. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 291-11.6) (Imp: HRS §§286-16, 286-26, 291-11.6)

§19-133.2-36 Inspection of exhaust system. (a) Exhaust system components shall be inspected for condition, damage, installation, leakage of gases, missing or exposed parts.

(b) No certificate of inspection shall be issued if the exhaust system components are leaking, not securely fastened, required component parts are missing, equipped with exhaust cut-outs or by-pass or similar devices, the muffler emits excessive noise, or exhaust gas is not exiting beyond the passenger compartment, unless such exit was designed by the original motor vehicle manufacturer. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-37 Inspection of intake and fuel system. (a) Intake and fuel system units, including filler tubes, filler caps, and hoses shall be inspected for proper location, connection, security of installation, leakage, and damage.

(b) No certificate of inspection shall be issued if any of the following occurs:

(1) Any part of the system is not securely and permanently fastened;

(2) There is liquid fuel leakage at any point in the system;

(3) Fuel tank filler cap is missing or does not fit properly; or

(4) Tubes or lines are damaged so as to restrict free flow of fuel. [Eff 7/31/91; comp Dec

02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-38 Inspection of speedometer-odometer. (a) The speedometer-odometer shall be inspected for proper operation. Indicated vehicle mileage (miles or kilometers) shall be recorded on the inspection certificate. If a speedometer is installed in a vehicle that is less than 25 years old, it must display speed in miles per hour.

(b) No certificate of inspection shall be issued if the odometer is not functioning or the speedometer does not have gradation marks for miles per hour. [Eff 7/31/89; comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-38.5 Special interest vehicles. Special interest vehicles shall be inspected the same as other vehicles except for the following. If there is a conflict between this chapter and section 286-26.5, HRS, section 286-26.5, HRS shall prevail.

(1) Street rod vehicles and street rod replica vehicles are required to have the following equipment:
   (A) Hydraulic service brakes on all wheels;
   (B) Sealed beam or halogen headlights;
   (C) Turn signals and a turn signaling switch;
   (D) Safety glass or Lexan windshield;
   (E) Electric or vacuum windshield wiper located in front of the driver;
   (F) Standard or DOT/SAE approved taillights;
   (G) A parking brake that operates on at least two wheels on the same axle;

(H) Seat belt assembly as provided in section 291-11.6 HRS; and

(I) Other equipment must comply with this chapter where applicable. Windshield washers, bumpers, hoods, door handles, and fenders are optional equipment. If a bumper or hood is installed, it must be inspected.

(2) Special interest vehicles that are neither a street rod nor a street rod replica shall comply with the applicable requirements of this chapter, except for FMVSS requirements. [Eff and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 286-26.5) (Imp: HRS §§286-16, 286-26, 286-26.5)

§19-133.2-38.6 Motorcycle inspections. (a) In general, motorcycles are inspected the same way as other vehicles. Autocycles shall be inspected using applicable criteria for both motorcycle and car inspections. The following failure criteria need special attention when inspecting a motorcycle:

(1) Wheel alignment can be checked by making three parallel lines one inch apart on the floor. The lines should be twice the length of a motorcycle. Center the wheels on the centerline and observe tracking of the rear wheel as the motorcycle is moved forward on the centerline. If the rear wheel alignment of a two-wheel motorcycle, in relation to tracking the front wheel, is misaligned by one inch or more, or not within the manufacturer's specifications, it is a failure;

(2) In addition to the normal criteria, the vent tube of a motorcycle battery must not drip on the drive chain, or belt;

(3) A three-wheeled motorcycle must have a parking brake;

(4) Brake levers must have a little free play

and not contact the handle grip when fully depressed. They must move smoothly and snap to the resting position when released;

(5) A clutch lever must have a little free play and not touch the handlebar prior to full clutch disengagement; it must spring back to the rest position when released;

(6) A motorcycle must have a properly working engine kill switch if it was manufactured after September 1, 1974;

(7) All tire treads must be covered with fenders;

(8) Final drive belts and chains must be adjusted to manufacturer's specifications. Drive shafts must not leak. Sprockets must be free of damaged, hooked, or missing teeth;

(9) Footrests must be securely mounted for all riders and must fold upward or rearward and upward when not in use. Seats or saddle must be securely mounted; side-by-side seating requires seat belts;

(10) The fuel petcock, if present, must be able to move to all three positions;

(11) The motorcycle stand must hold up the motorcycle and continue to hold it when turning the handlebar from stop to stop. The handlebar must not be more than 15 inches above the portion of the saddle occupied by the operator; and

(12) The swing arm must not have play or have damage that adversely affects tracking.

(b) In addition to the applicable criteria in paragraph (a) above, the following vehicle inspection criteria shall be used where applicable for inspecting an autocycle:

(1) §19-133.2-27, Inspection of vehicle registration, license plate, vehicle identification number, and proof of insurance;

(2) §19-133.2-28, Inspection of steering and suspension systems;

(3) §19-133.2-29, Inspection of tires;
(4) §19-133.2-30, Inspection of wheels;
(5) §19-133.2-31, Inspection of brakes;
(6) §19-133.2-32, Inspection of lamps and reflectors;
(7) §19-133.2-33, Inspection of horns;
(8) §19-133.2-35(a)(1) and (b)(1), Mirrors: exterior and interior rear view mirrors;
(9) §19-133.2-35(a)(2) and (b)(2), Wipers (if present);
(10) §19-133.2-35(a)(5) & (b)(5), Fenders;
(11) §19-133.2-35(a)(6) and (b)(6), Doors (as applicable);
(12) §19-133.2-35(a)(7) and (b)(7), Seats and seat belts (as applicable);
(13) §19-133.2-35(a)(9) and (b)(10), Battery;
(14) §19-133.2-35(a)(10) and (b)(7), Floor pan;
(15) §19-133.2-36 Inspection of exhaust system;
(16) §19-133.2-37 Inspection of intake and fuel system; and
(17) §19-133.2-38 Inspection of speedometer-odometer. [Eff and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26, 286-26.5) (Imp: HRS §§286 286-16, 286-26, 286-26.5)

§19-133.2-39 Standards and criteria. In addition to the criteria listed in this chapter, the following standards may be used for vehicle inspections: 49 CFR Parts 570 and 571 as they existed on the date the vehicle was manufactured, except for imported uncertified vehicles that are at least 25 years old. [Eff 7/31/89; am and comp Dec 02, 2005; am and comp 8/13/2011; am and comp Nov 1, 2013; am and comp 9/30/2018; am and comp 9/04/2021; comp] (Auth: HRS §§286-18, 286-26) (Imp: HRS §§286-16, 286-26)

§19-133.2-40 Inspection of trailers. (a) Trailers with a gross weight of 3,000 pounds or less must be failed if they do not have the following:

(1) Two rear reflectors, one on right and one on left;
(2) A stop light if the towing vehicle stop light is blocked from view;
(3) Light illuminating license plate;
(4) Fenders, covers or devices, including flaps or splash aprons, or unless the body of the vehicle or attachments thereto afford adequate protection to effectively minimize the spray or splash of water or mud to the rear of the vehicle; and
(5) Safety chains or cables and accompanying coupling and mounting devices with an ultimate strength equal at least to the gross weight of the trailer.

(b) Trailers with a gross weight greater than 3,000 pounds must fail inspection if they do not have the following:

(1) Two front clearance lamps, one on each side (24 to 60 inches high, unless the trailer is less than 24 inches high);
(2) Two side marker lamps on each side (front and rear); in darkness, they must be visible 200 feet from vehicle;
(3) Two rear clearance lamps, one on each side;
(4) Two side reflectors on each side (front and rear): in darkness, they must be visible 200 feet at night with upper beam headlamps shining on them;
(5) Two rear reflectors on each side;
(6) At least one stoplight visible night or day for 100 feet;
(7) Light illuminating license plate;
(8) Brakes that are actuated from the tow vehicle, and in the event of a breakaway, the brakes must self-actuate;
(9) Fenders, covers or devices, including flaps or splash aprons, unless the body of the vehicle or attachments thereto afford

adequate protection to effectively minimize the spray or splash of water or mud to the rear of the vehicle; or

(10) Safety chains or cables and accompanying coupling and mounting devices with an ultimate strength equal at least to the gross weight of the trailer. [Eff and comp 9/30/2018; comp] (Auth: HRS §§286-18, 286-26, 286-26.5) (Imp: HRS §§286-16, 286-26, 286-26.5, 291-31)

§19-133.2-40.5 Specific inspection procedures and standards for neighborhood electric vehicles. In general, neighborhood electric vehicles and other electric vehicles are inspected the same way as other vehicles; when an item is not applicable, the item on the inspection sheet is left blank. The following specific items need special attention when inspecting a neighborhood electric vehicle (NEV).

(1) Intake & Fuel System: Although an electric vehicle has no intake system, it does have a fuel system of batteries, which must not leak or have excessive corrosion on the terminals. The batteries must be secure, the terminal connections tight and cell caps in place. Batteries must also be separated from occupants and be vented;

(2) Headlamps: High beams are not required for neighborhood electric vehicles. If the regular headlamps operate correctly, a check is placed in the inspection sheet "appd" box;

(3) Warning lamps: It is not a federal or state requirement for neighborhood electric vehicles to have 4-way flashers. The boxes are left blank to indicate that the item is not applicable;

(4) Window Tint: Tint inspection will usually not be made on these vehicles, because they typically have only a windshield. Light transmittance of a strip of tint above the00

AS-1 mark near the top of the windshield is not measured; however, tint cannot encroach the AS-1 portion. Should a later model vehicle have windows in addition to the windshield, they must comply with section 291-21.5, HRS;

(5) Windshield: A NEV may have either an AS-1 or AS-5 windshield;

(6) Windshield wipers: These are not required on NEVs;

(7) Rear View Mirrors: NEVs are required to have an exterior mirror on the driver's side and either an interior rear-view mirror in the middle or an exterior mirror on the passenger side;

(8) Door Latches: NEVs have no doors;

(9) Hood Latches: NEVs usually do not have forward opening hood or trunk lids. Some models have latches on the front "hood", which covers the motor and two batteries. Some earlier models have screws that hold this cover in place. Neither of these is forward opening. The boxes of the inspection sheet will be blank if the item is not applicable, or marked apvd or defect as appropriate;

(10) Seat belts: NEVs may use either Type 1 or Type 2 seat belts. A Type 1 seat belt assembly is a lap belt for pelvic restraint. A Type 2 seat belt is a combination of pelvic and upper torso restraints;

(11) Bumpers: NEVs are not required to have a bumper. If a NEV has a bumper, it must be inspected in accordance with section 19-133.2-35(b)(4);

(12) Speedometer and Odometer: NEVs are not required to have either, but nearly all NEVs have both a speedometer and an odometer. The ignition must be turned on to read the speedometer. The meter alternates between showing the vehicle speed and the percent of battery charge. When the ignition is turned

off, the odometer will be displayed briefly. Record the odometer reading when it is available;

(13) NEVs are required by section 291C-130, HRS to have a triangular slow moving vehicle emblem displayed at the rear. The triangular emblem must be 14 inches high and 16 inches wide, mounted with the base down and at a height of not less than three nor more than five feet from the ground to base; and

(14) NEVs must have a permanently attached or painted sign that is visible to the driver stating that the vehicle must not be driven on roads with a speed limit greater than 35 mph and that the NEV may not travel faster than 25 mph. [Eff and comp Dec 02, 2005; am and comp 8/13/2011; comp Nov 1, 2013; am and comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §§286-16, 286-26, 291C-134) (Imp: HRS §§286-16, 286-26, 291C-134)

§19-133.2-40.6 Inspection of uncertified imported vehicles that are at least 25 years old. These vehicles must comply with this chapter, except for components and markings required by FMVSS. Headlamps are required to be properly aimed for use in the U.S.A. Stock vehicles that lack domestically required equipment, such as side marker lamps, may pass inspection. [Eff and comp 9/04/2021; comp] (Auth: HRS §§286-16, 286-26, 291C-134) (Imp: HRS §§286-16, 286-26, 291C-134)

§19-133.2-41 Department of transportation may contract with counties. The department may contract with the counties for administrative, enforcement services, and implementation of this chapter. [Eff 7/31/89; comp Dec 02, 2005; comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; comp 9/04/2021;

comp] (Auth: HRS §§286-16, 286-17, 286-18, 286-27) (Imp: HRS §§286-16, 286-17, 286-18, 286-27)

SUBCHAPTER 4

SEVERABILITY

§19-133.2-42 Severability. If any portion of this chapter is held invalid or any reason, the invalidity shall not affect the validity of the remainder of the chapter." [Eff and comp Dec 02, 2005; comp 8/13/2011; comp Nov 1, 2013; comp 9/30/2018; comp 9/04/2021; comp] (Auth: HRS §286-18) (Imp: HRS §286-18)

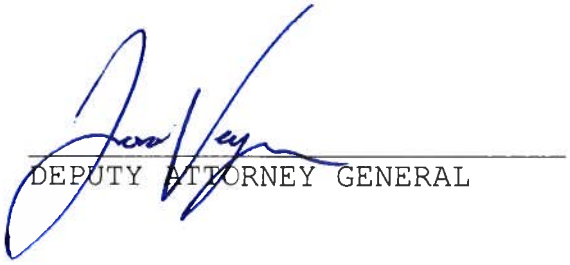
2. Material, except source notes and other notes, to be repealed is bracketed and is stricken. New material except source notes and other notes, is underscored.

3. These amendments to and compilation of chapter 19-133.2, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

I certify that the foregoing are copies of the rules, drafted in the Ramseyer format, pursuant to the requirements of section 91-4.1, HRS, which were adopted on, and filed with the Office of the Lieutenant Governor.

EDWIN H. SNIFFEN
Director of Transportation

APPROVED AS TO FORM:



DEPUTY ATTORNEY GENERAL

V. Legislative Matters

A. Update on the following legislative matters:

1. **House Bill 2354 HD1 SD2 CD1 "Relating to the Small Business Regulatory Review Board"** – Clarifies that the Small Business Regulatory Review Board has the authority to review legislation affecting small businesses in response to a request from small business owners

2. **Senate 2974 SD2 HD1 CD1 "Bill Relating to Economic Development" –** Establishes a Business Revitalization Task Force within the Department of Business, Economic Development, and Tourism to identify methods to improve Hawaii's general economic competitiveness and business climate, including by mitigating regulatory and tax burdens; requires a report to the legislature

GOV. MSG. NO. 1168

EXECUTIVE CHAMBERS
KE KE'ENA O KE KIA'ĀINA

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

June 21, 2024

The Honorable Ronald D. Kouchi
President of the Senate,
and Members of the Senate
Thirty-Second State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Scott K. Saiki
Speaker, and Members of the
House of Representatives
Thirty-Second State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

This is to inform you that on June 21, 2024, the following bill was signed into law:

HB2354 HD1 SD2 CD1

RELATING TO THE SMALL BUSINESS REGULATORY REVIEW BOARD.
ACT 067

Sincerely,

Josh Green M.D.

Josh Green, M.D.
Governor, State of Hawai'i

Approved by the Governor

on JUN 21 2024

ACT 067

HOUSE OF REPRESENTATIVES
THIRTY-SECOND LEGISLATURE, 2024
STATE OF HAWAII

H.B. NO. 2354 H.D. 1 S.D. 2 C.D. 1

A BILL FOR AN ACT

RELATING TO THE SMALL BUSINESS REGULATORY REVIEW BOARD.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. Section 201M-5, Hawaii Revised Statutes, is amended as follows:

1. By amending subsection (a) to read:

"(a) There shall be established within the department of business, economic development, and tourism, for administrative purposes, a small business regulatory review board to review any proposed new or amended rule. If the board determines that a proposed rule will not have a significant economic impact on a substantial number of small businesses, the board shall submit a statement to that effect to the agency that sets forth the reason for the board's decision. If the board determines that the proposed rule will have a significant economic impact on a substantial number of small businesses, the board may submit to the agency suggested changes in the proposed rule to minimize the economic impact of the proposed rule, or may recommend the withdrawal of the proposed rule. The board may also consider any request from small business owners for review of any rule

proposed, amended, or adopted by a state agency or for review of any legislation affecting small businesses, and to make recommendations to the agency or the legislature regarding the need for a rule change or legislation. For requests regarding county rules, the board may make recommendations to the county council or the mayor for appropriate action."

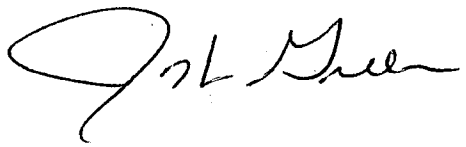
2. By amending subsection (f) to read:

"(f) The board shall submit an annual report to the legislature twenty days prior to each regular session detailing any requests from small business owners for review of any rule proposed, amended, or adopted by a state agency[~~,~~] or for review of any legislation affecting small businesses, and any recommendations made by the board to an agency or the legislature regarding the need for a rule change or legislation. The report shall also contain a summary of the comments made by the board to agencies regarding its review of proposed new or amended rules."

SECTION 2. Statutory material to be repealed is bracketed and stricken. New statutory material is underscored.

SECTION 3. This Act shall take effect upon its approval.

APPROVED this 21st day of June , 2024



GOVERNOR OF THE STATE OF HAWAII

HB No. 2354, HD 1, SD 2, CD 1

THE HOUSE OF REPRESENTATIVES OF THE STATE OF HAWAII

Date: May 1, 2024
Honolulu, Hawaii

We hereby certify that the above-referenced Bill on this day passed Final Reading in the House of Representatives of the Thirty-Second Legislature of the State of Hawaii, Regular Session of 2024.

Scott K. Saiki
Speaker
House of Representatives

Brian L. Takeshita
Chief Clerk
House of Representatives

THE SENATE OF THE STATE OF HAWAI'I

Date: May 1, 2024
Honolulu, Hawai'i 96813

We hereby certify that the foregoing Bill this day passed Final Reading in the Senate of the Thirty-Second Legislature of the State of Hawai'i, Regular Session of 2024.

President of the Senate

Clerk of the Senate

GOV. MSG. NO. 1243

EXECUTIVE CHAMBERS
KE KE'ENA O KE KIA'ĀINA

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

July 1, 2024

The Honorable Ronald D. Kouchi
President of the Senate,
and Members of the Senate
Thirty-Second State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Scott K. Saiki
Speaker, and Members of the
House of Representatives
Thirty-Second State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

This is to inform you that on July 1, 2024, the following bill was signed into law:

SB2974 SD2 HD1 CD1 — RELATING TO ECONOMIC DEVELOPMENT.
ACT 142

Sincerely,

Josh Green M.D.

Josh Green, M.D.
Governor, State of Hawai'i

Approved by the Governor

on JUL 1 2024

ACT 142

THE SENATE
THIRTY-SECOND LEGISLATURE, 2024
STATE OF HAWAII

S.B. NO. 2974 S.D. 2 H.D. 1 C.D. 1

A BILL FOR AN ACT

RELATING TO ECONOMIC DEVELOPMENT.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that while new business formations have grown by thirty-seven per cent in Hawaii since the beginning of 2020, this rate is well below the national average and among the bottom ten nationally. In the latest comprehensive entrepreneurial study from the Kauffman Foundation, the early survival rate for startups in Hawaii is the lowest in the country. Self-employment in Hawaii has consistently been lower than in the United States as a whole, and in 2020, Hawaii ranked fortieth for the percentage of self-employed individuals.

The legislature further finds that tax rates are a factor in business investment decisions and often affect the movement of individuals. Recent reports show both companies and individuals are more likely to move to a location with lower taxes. Hawaii currently ranks the sixth highest for state and local taxes per capita and was ranked forty-second for business climate by the Tax Foundation.

The purpose of this Act is to establish a task force to identify methods to improve Hawaii's general economic competitiveness and business climate, including the mitigation of regulatory and tax burdens.

SECTION 2. (a) There is established a business revitalization task force within the department of business, economic development, and tourism for administrative purposes.

(b) The task force shall consist of the following members:

(1) The director of business, economic development, and tourism or the director's designee;

(2) The director of commerce and consumer affairs or the director's designee;

(3) The director of taxation or the director's designee;

(4) The director of labor and industrial relations or the director's designee;

(5) A member of the small business regulatory review board, to be appointed by the chair of the board;

(6) The dean of the university of Hawaii at Manoa Shidler college of business or the dean's designee; and

(7) The director of each county agency with jurisdiction over economic development or each respective director's designee.

(c) The chair of the house of representatives standing committee with primary jurisdiction over economic development and the chair of the senate standing committee with primary jurisdiction over economic development may invite one person from each of the following entities to join the task force:

(1) One representative of the construction industry;

(2) One representative of the agriculture industry;

(3) One representative of the visitor industry;

(4) One representative of the food industry;

(5) One representative of the retail industry;

(6) One representative of the high technology industry;

(7) One representative of the regional and ethnic chambers of commerce; and

(8) One representative from the Chamber of Commerce Hawaii.

(d) The task force shall select a chairperson from among the members listed in subsection (b) and a vice chairperson from among any of its members.

(e) Local business community members of the task force shall serve without compensation.

(f) The task force shall meet as necessary but not less than quarterly. The task force may conduct its meetings by teleconference or other similar means.

(g) The task force shall:

(1) Identify methods to improve Hawaii's general economic competitiveness and business climate, including the mitigation of regulatory and tax burdens;

(2) Develop and recommend legislation to increase Hawaii's general economic competitiveness; and

(3) Develop recommendations for improving governmental operations and reducing costs.

(h) Staff to assist the task force in performing its duties shall be assigned by the department of business, economic development, and tourism or the president of the senate, speaker of the house of representatives, and governor.

(i) In performing its duties as required by subsection (g), the task force shall consider reports issued by the auditor; state ethics commission; department of business,

economic development, and tourism; and university of Hawaii economic research organization and any other relevant reports.

(j) The task force shall submit a report of its findings and recommendations, including any proposed legislation, to the legislature no later than twenty days prior to the convening of the regular session of 2026; provided that the task force may submit all or parts of its recommendations to the legislature prior to the submission of its report.

(k) The task force shall be dissolved on June 30, 2026.

SECTION 3. This Act shall take effect on July 1, 2024.

S.B. NO. 2974 S.D. 2 H.D. 1 C.D. 1

APPROVED this 1st day of July, 2024

GOVERNOR OF THE STATE OF HAWAI'I

THE SENATE OF THE STATE OF HAWAI'I

Date: May 1, 2024
Honolulu, Hawai'i 96813

We hereby certify that the foregoing Bill this day passed Final Reading in the Senate of the Thirty-Second Legislature of the State of Hawai'i, Regular Session of 2024.

President of the Senate

Clerk of the Senate

SB No. 2974, SD 2, HD 1, CD 1

THE HOUSE OF REPRESENTATIVES OF THE STATE OF HAWAII

Date: May 1, 2024
Honolulu, Hawaii

We hereby certify that the above-referenced Bill on this day passed Final Reading in the House of Representatives of the Thirty-Second Legislature of the State of Hawaii, Regular Session of 2024.

Scott K. Saiki
Speaker
House of Representatives

Brian L. Takeshita
Chief Clerk
House of Representatives

VI. Administrative Matters

A. Update on the Board's Upcoming Advocacy Activities and Programs in accordance with the Board's Powers under Section 201M-5, Hawaii Revised Statutes (HRS)

1. Update and Discussion on Becker Communications Inc., regarding the Board's Small Business Outreach – *No Attachment*
2. Presentations to Industry Associations – *No Attachment*
3. Staff's Small Business Outreach – *No Attachment*