



To: The Honorable Minister of Alberta Municipal Affairs,
The Honorable Minister of Advanced Education,
The Honorable Minister of Jobs, Economy and Trade,
The Honorable Minister of Energy and Minerals,
The Honorable Minister of Service Alberta and Red Tape Reduction

From: International Pressure Equipment Integrity Association (IPEIA) on behalf of:
Upstream Chief Inspectors Association (UCIA)
Alberta Refinery and Petrochemical Inspection Association (ARPIA)
Contract Chief Inspectors Association (CCIA)
Generation Utility Advisory Committee (GUAC)
Alberta Pressure Piping Contractors Association (APPCA)

Date: 12 October 2023

Subject: STAE Act and Regulation, the Safety Codes Act, and the Pressure Equipment Safety Regulation and Related Regulations

The International Pressure Equipment Integrity Association (IPEIA) is a not-for-profit organization, comprised of individuals active in the pressure equipment industry and related educational groups. The stakeholders in the association include the associations listed below as well as individuals employed or engaged in the pressure equipment industry.

Upstream Chief Inspectors Association (UCIA)
Alberta Refinery and Petrochemical Inspection Association (ARPIA)
Contract Chief Inspectors Association (CCIA)
Generation Utility Advisory Committee (GUAC)
Alberta Pressure Piping Contractors Association (APPCA)

Problem Statement

There are requirements in the Skilled Trades and Apprenticeship Education (STAE) Act and Regulation that overlap or conflict with the Safety Codes Act (SCA), the Pressure Equipment Safety Regulation (PESR), the Pressure Welders Regulation and the Power Engineers Regulation as well as the following Administrator's Requirements documents:

International Pressure Equipment Integrity Association (IPEIA)
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www.ipeia.com

- AB-506 Inspection and Servicing Requirements for In-Service Pressure Equipment
- AB-512 Owner User Pressure Equipment Integrity Management Requirements
- AB-513 Pressure Equipment Repairs and Alterations Requirements
- AB-526 In-Service Pressure Equipment Inspector Certification Requirements, and
- AB-527 Guidelines for the Competence Assessment of Inspectors

The overlapping requirement of the legislative framework creates significant red tape, makes compliance very difficult and/or impractical, and will add significant cost to Alberta's Energy Industry if enforced uniformly across the industry. There are also 2 unique situations under the Boilermaker trade's scope of work that could pose a safety risk to personnel and equipment which will be explained below. Complying with all aspects of the overlapping and conflicting Acts and Regulations will pose a significant threat to our ability to remain competitive not only with neighboring provinces but also with our international competitors. Additionally, recent enforcement actions of the STAE Act and Regulation by AIT Officers have halted work on several Oil and Gas facilities.

Background

In July 2022 the new STAE Act and Regulation was put into force. The Safety Codes Act and Pressure Equipment Safety Regulation (PESR) have been in place since 1998 and 2006 respectively. The SCA and PESR are administered by Alberta Boilers Safety Association (ABSA), a Delegated Administrative Authority authorized by Alberta Municipal Affairs (AMA). The Safety Codes Act and the Pressure Equipment Safety Regulation replaced previous legislation that was in effect.

The STAE Act and Regulation contains detailed training and certification requirements for personnel conducting pressure equipment fabrication, inspection, and maintenance activities. The PESR contains detailed requirements for Quality Management Systems including training, competency and certification requirements for personnel conducting pressure equipment fabrication, inspection, and maintenance activities.

The Power Engineers Regulation contains detailed information for the operation, design and maintenance of power boilers, heating boilers and thermal liquid heating systems. The Pressure Welders Regulation contains detailed information on the requirements for welding pressure equipment.

The member companies within the associations listed below¹ have been managing the safe operation of the pressure equipment they own, operate, or administer with Pressure Equipment Integrity Management Systems. The PEIMS are a life cycle approach to managing pressure equipment safety, please refer to AB-512 Owner User Pressure Equipment Integrity Management Requirements for the detailed requirements². The PEIMS are audited and certified by Safety Codes Officers employed by ABSA. The PEIMS activities are carried out with competent personnel that are certified by ABSA and AMA to construct, operate, inspect, repair, and maintain pressure equipment.

- **UCIA** is an owner's association specifically related to upstream and midstream facilities. They provide a forum for information exchange and discussion between owners on issues relating to the safety, reliability and integrity of pressure equipment. The forum is designed for two-way

¹ <https://www.ipeia.com/new-memberships/>

² <https://www.absa.ca/absa-publications-and-forms/ab-500-series/>

communication with regulators on issues that pertain to upstream and midstream facilities and offers an opportunity to exchange information between other related industry groups. UCIA currently has 36 member companies.

- **ARPIA** An owner association of Chief Inspectors and Pressure Equipment Quality Program Administrators focused on continuously improving and optimizing safety, reliability, and integrity of “New” and “In Service” pressure equipment in refinery and petrochemical facilities within Alberta.
- **CCIA** is an association of 29 member companies or individuals that provides Asset Integrity Management (related to pressure equipment) services and Contract Chief Inspector services to operating companies in Western Canada.
- **GUAC** is a group of 11 members employed by or representing power generation companies throughout Alberta and Saskatchewan since 2002. Members are Chief Inspectors, representatives of power generation companies, or technical experts in related fields. GUAC members are committed to the deliberation of numerous topics related to pressure equipment integrity management systems and proposed changes to provincial legislation and regulations. GUAC has been in place as an organization since 2002.
- **APPCA** is an association of 11 AQP certificate of authorization holders for construction, repair, or alteration of pressure piping. APPCA’s purpose is to work together to identify common concerns and safe best practices with a mission to promote change in an atmosphere of cooperation, collaboration and mutual understanding through active and invested involvement in our industry and Alberta regulatory requirements.

Details of the Overlapping and/or Conflicting Requirements

The following information will outline the areas where there are overlapping or conflicting requirements as well as the challenges associated with complying with these requirements.

The STAE Act and Regulation specify minimum education and certification requirements for the fabrication, assembly, erection, repairing, maintaining, inspecting, servicing, preparing, and testing of boilers, heat exchangers and related equipment as well as the fabrication, installation, alteration, maintenance, and repair of piping systems. Please see the excerpts from the Regulation in Appendix A. The PESR, Power Engineers Regulation, Pressure Welders Regulation, AB-506, AB-512, AB-513, AB-526 & AB-527 specify minimum requirements for pressure equipment design, fabrication, installation, operation, inspection, servicing, and maintenance of pressure equipment. These activities are completed in accordance with ABSA and AMA certified Quality Management Systems. The fabrication, inspection, maintenance, repair, and servicing activities that have historically been conducted under this framework would be within the scope of the Boilermaker and Steamfitter-pipefitter trades’ restricted activities and in addition to existing requirements would also require Boilermaker and Steamfitter certifications in many cases.

Operations and maintenance staff have historically conducted maintenance activities on the facilities such as repairs to threaded piping systems, removal and installation of pressure relieving devices, opening and closing equipment for inspection activities. These are done in accordance with established company procedures within the Pressure Equipment Integrity Management Systems. The competence of the personnel is verified within the PEIMS and audited by ABSA during the tri-annual audits. Many of these facilities have a very low financial operating margin, additional cost could impact their sustainability and cause the facility to be abandoned. This would in turn have an impact on the number of jobs in the industry.

A relevant example of the challenges outlined above would be a Pressure Equipment Inspector. For an individual to inspect pressure equipment in accordance with the above noted Acts and Regulations, they would need to satisfy the requirements for Boilermaker certification as well as the requirements for In-Service Pressure Equipment Inspector certification. This has created a situation where very few certified In-Service Inspectors would meet these criteria, even though they have been inspecting pressure equipment or managing PEIM Systems competently, as required by ABSA in an Owner/User program, and safely for many years.

Another relevant example would be maintenance and servicing of the items referred to in Schedule 1 Clause 19(a)(i)-(x). The control systems and devices on the various sizes of boilers require specific programming to a variety of codes (i.e.: ASME CSD-1, CSA B149.1/3, etc.). These are engineered systems that require a great deal of technical competency to ensure they are serviced correctly and in accordance with the engineered design. For an individual to service or maintain a boiler or pressure vessel, they would require Boilermaker certification in addition to the instrumentation certification they would typically possess to complete this work. There are vastly different skill sets and training required for these certifications

Discussion

Alberta contains one of the highest per capita ratios of pressure equipment to population in North America. The Alberta Pressure Equipment legislative framework is a world class system which was developed in accordance with nationally and internationally recognized codes and standards. The framework has been in place across most of the Energy industry for more than 20 years. Assurance of satisfactory implementation for all aspects of Pressure Equipment Quality Management Systems are verified through tri-annual audits by Safety Codes Officers. The framework has produced excellent safety performance demonstrated over many years. The member companies of the aforementioned associations have full support of Senior Management to implement the PEIM Systems. The member companies understand the framework well and demonstrate compliance to the framework through the auditing process. The associations work closely with AMA and ABSA to ensure a thorough understanding of the expectations as well as a consultative approach to continuous improvement of the framework. The existing framework contains requirements for training, competency and certification of individuals performing the restricted activities outlined in this letter.

Enforcement activities of the STAE Act and Regulations has not historically been conducted on Alberta facilities. The recent actions in 2022 and 2023 have brought to light existing overlap and conflicts. The associations' member companies have a long history of striving to comply with legislative requirements and working with Regulatory bodies to enhance and improve legislative requirements to enable compliance. The member companies do not want to wait until they are individually impacted by enforcement activities and would like to proactively identify and address the challenges associated with compliance to the STAE Act and Regulation.

Existing Legislation Exemptions

Sections 13 and 14 of the STAE Regulation detail the requirements for the Administrator to grant authorization to perform a restricted activity. The following outlines 2 scenarios where exemptions may be granted:

- a) The individual is engaged in work that consists primarily of factory mass production or in-plant assembly operations where products or components are produced or assembled or,

- a) The individual is engaged in in-plant processing, or operations supporting in-plant processing, of natural resources through the collection, refinement, and transformation of these resources into a final product where the work consists of recurring or repetitive, documented operations and is performed

Please refer to the Regulation for specifics on exemptions and the conditions for the exemptions.

Resolution

The associations represented through IPEIA would like to request an Administrator's interpretation of the potential exemptions in Section 13 and 14 for the Upstream Oil and Gas Industry.

In the spirit of red tape reduction and industry competitiveness, IPEIA's members would also like to request the interpretation be made permanent.

Regards,



Jim Yukes
IPEIA Integrity Challenges Forum
IPEIA Co-Chair

Appendix A

Boilermaker Trade

Schedule 2 Section 19 of the STAE Regulation indicates the following information:

Restricted activities

19(1) In this section,

- a) “boilers, heat exchangers and related equipment” means the following:
 - (i) water tube boilers;
 - (ii) fire tube boilers;
 - (iii) heat exchangers;
 - (iv) condensers;
 - (v) distillation towers;
 - (vi) stacks and stack liners;
 - (vii) storage tanks;
 - (viii) penstocks;
 - (ix) furnaces;
 - (x) dust, air, steam, liquid tight containers and other equipment not referred to in subclauses (i) to (ix);
 - (xi) platforms, ladders, walkways, floors, roofs, support structures or other structures related to or used in respect of the items referred to in subclauses (i) to (x);
- b) “undertakings of the designated trade” means the following:
 - (i) the fabrication, assembly, erection, repair, maintenance, inspection, servicing,
 - (ii) preparation and testing of boilers, heat exchangers and related equipment;
 - (iii) the stress relieving of vessels and ancillary equipment.

(2) The following activities, when performed within undertakings of the designated trade, are restricted activities within the designated trade of Boilermaker:

- a) fabricating, assembling and erecting of boilers, heat exchangers and related equipment;
- b) repairing, maintaining, inspecting and servicing of boilers, heat exchangers and related equipment;
- c) preparing and testing of boilers, heat exchangers and related equipment;
- d) stress relieving of vessels and ancillary equipment;
- e) using detailed drawings and other specifications;
- f) using all related standards, codes and regulations;
- g) using hand tools, power tools and shop equipment, including post drills, radial drills, angle rolls, plate rolls, punches, shears, brakes and presses;
- h) using, setting up and assembling of rigging equipment, including wire rope, block and tackle, gin poles, cranes, derricks, hoisting and jacking equipment and scaffolds;
- i) using oxyfuel cutting and arc tack welding equipment in heat straightening, cutting and joining metals;
- j) using fiberglass-reinforced plastic
- k) in respect of air handling systems, including scrubbers, ducting, breeching and stacks, and in respect of tanks, hoppers and vessels;
- l) using new technology related to the restricted activities set out in this section.

Classes of individuals

20 Only the following classes of individuals may perform a restricted activity within the designated trade of Boilermaker:

- a) any individual who holds a trade certificate in the designated trade;

- b) any individual who holds an endorsement in the designated trade;
- c) any apprentice with an apprenticeship education agreement approved by the Registrar under the Apprenticeship Education and Industry Training Programs Regulation in the designated trade;
- d) any individual who has filed an application for issuance of an Alberta Journeyman Certificate in the designated trade if the application is subsisting and, during the time that the application is subsisting, the work of the individual in the designated trade is carried out under the supervision of an individual who holds a trade certificate or an endorsement in the designated trade;
- e) any individual who has filed an application for approval by the Registrar under the Apprenticeship Education and Industry Training Programs Regulation of an apprenticeship education agreement in the designated trade if the application is subsisting and, during the time that the application is subsisting, the work of the individual in the designated trade is carried out under the same conditions as those that apply to an apprentice with an apprenticeship education agreement approved by the Registrar under the Apprenticeship Education and Industry Training Programs Regulation in the designated trade;
- f) any individual who is registered in a student work training program in the designated trade;
- g) any individual who is registered in an education or training program that is recognized by the Administrator under section 12(d)(iii) of this Regulation as a program that, on successful completion, will result in a document recognized by order of the Board under section 14(2)(c) of the Act as being the equivalent of an Alberta Journeyman Certificate in the designated trade if, during the time that the individual is registered in the program, the work of the individual in the designated trade is carried out under a mentor and the same supervision and ratio requirements as those that apply to an apprentice with an apprenticeship education agreement approved by the Registrar under the Apprenticeship Education and Industry Training Programs Regulation in the designated trade;
- h) any individual who is performing the restricted activity in accordance with an authorization granted by the Administrator under section 13 of this Regulation;
- i) any individual who is performing the restricted activity in accordance with section 14(2) or (3) of this Regulation;
- j) any individual who is performing the restricted activity in respect of any property that the individual
 - (i) owns,
 - (ii) has possession of or control over, and
 - (iii) intends only for personal and not-for-profit use by
- k) the individual;
- l) any individual who is performing the restricted activity in respect of a farming and ranching operation, as described in section 1.1(1) and (2) of the Occupational Health and Safety Code (AR 191/2021), if the individual
 - (i) is not paid wages, as defined in the Employment Standards Code, for the performance of farming or ranching work, or
 - (ii) is paid wages, as defined in the Employment Standards Code, for the performance of farming or ranching work and, in respect of the farming and ranching operation, is a person referred to in section 1(cc)(i)(B)(I), (II), (III) or (IV) of the Occupational Health and Safety Act;
- m) any individual who is performing a restricted activity within the designated trade that is the same as a restricted activity within another designated trade or branch of a designated trade and for which the same training is provided in both the designated trade and the other designated trade or branch of a designated trade if

- (i) the individual holds a trade certificate or, if applicable, an endorsement in the other designated trade or branch of a designated trade, or
- (ii) the individual
 - A. is an apprentice with an apprenticeship education agreement approved by the Registrar under the Apprenticeship Education and Industry Training Programs Regulation in the other designated trade or branch of a designated trade, and
 - B. has completed the training in respect of the restricted activity.

Steamfitter-Pipefitter trade

Schedule 2 Section 121 of the STAE Regulation indicates the following information:

Restricted activities

121(1) In this section,

- a) “piping system” means any type of commercial or industrial piping system and includes the following:
 - (i) hot liquid systems;
 - (ii) high and low pressure steam systems;
 - (iii) boilers and controls for boilers;
 - (iv) control and indicating devices systems;
 - (v) heating and cooling systems;
 - (vi) heat exchanger systems;
 - (vii) process systems;
 - (viii) power plant systems;
 - (ix) compressed gas systems;
 - (x) vacuum, pneumatic and hydraulic systems;
 - (xi) fire protection systems other than sprinkler systems;
 - (xii) flue gas systems;
 - (xiii) water treatment systems;
 - (xiv) fuel systems;
 - (xv) medical gas systems;
- b) “undertakings of the designated trade” means the fabrication, installation, alteration, maintenance and repair of piping systems.

(2) The following activities, when performed within undertakings of the designated trade, are restricted activities within the designated trade of Steamfitter-pipefitter:

- a) fabricating, installing, altering, maintaining and repairing piping systems;
- b) determining location, size and material required;
- c) producing fabrication and layout drawings from prints and specifications;
- d) compiling material breakdown and takeoff;
- e) identifying and using tools and special equipment that are used to carry out the restricted activities set out in this section;
- f) applying codes to installation requirements;
- g) rigging, hoisting and lifting equipment and piping components;
- h) installing, maintaining, servicing and troubleshooting boilers and controls;
- i) installing, maintaining and servicing heat exchange equipment and controls;
- j) cutting, preparing, aligning and assembling piping;
- k) installing, maintaining and servicing pumps, valves and related equipment;

- l) installing, maintaining and servicing components in heating, ventilation and air conditioning systems;
- m) fabricating and installing pipe supports, hangers and equipment supports.

Classes of individuals

122 Only the following classes of individuals may perform a restricted activity within the designated trade of Steamfitter-pipefitter:

- a) any individual who holds a trade certificate in the designated trade;
- b) any individual who holds an endorsement in the designated trade;

