

Changes to the Regulations Under the *Safety Standards Act*

This document describes the changes to regulations under the *Safety Standards Act* resulting from the implementation of labour mobility agreements with Alberta and the other provinces and territories.

It outlines changes to the:

- [Safety Standards General Regulation](#)
- [Gas Safety Regulation](#)
- [Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation.](#)

We encourage you to read through this document to learn more about how the revised regulations reconcile the occupational standards for many workers – including gas fitters and power engineers and operators – as well as important changes to how plants are classified.

Introduction

On April 1, 2009, the occupations regulated under the *Safety Standards Act* became subject to two provincial trade agreements: the Trade, Investment and Labour Mobility Agreement (TILMA) (signed with Alberta in 2006) and the Agreement on Internal Trade (AIT). The AIT was originally signed by all the provinces and the Government of Canada in 1996. Early in 2009, all the provinces and territories signed an agreement to amend the AIT labour mobility provisions to mirror those agreed to by BC and Alberta in the TILMA. As a result, national barriers to labour mobility were to be eliminated by April 1, 2009.

The BC Safety Authority first became aware of the changes that would result from the TILMA in late 2005. Working with our provincial counterparts and representatives from Alberta, BC Safety Authority staff worked to reconcile the occupational standards for gas fitters, power engineers and pressure welders between the two provinces. The goal for all involved was to ensure that TILMA obligations were met while maintaining the highest possible levels of safety on both sides of the border. Those discussions led to most of regulation changes that are explained in this document.

Other more general changes resulted from the AIT. Given the short time frame between the announcement of the changes to the labour mobility provisions of the AIT and the date of implementation, BC Safety Authority staff have not yet had the opportunity to discuss the national reconciliation of occupational standards with other Canadian provinces along the same line as what we have accomplished to date with Alberta. Given the nature of the changes to the regulations, however, we are hopeful that national reconciliation of occupational standards – which will enhance the safety of all Canadians – will take place in the coming months and years.

The changes to the regulations to accommodate TILMA and AIT under the *Safety Standards Act* take place in three regulations:

- the Safety Standards General Regulation,
- the Gas Safety Regulation and
- the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation.

The significant changes to the regulations are described below. Minor changes of a legal nature also occurred in the Elevating Devices Safety Regulation and the Electrical Safety Regulation to simply clarify that these two regulations are subject to the Safety Standards General Regulation.

Safety Standards General Regulation

Under both TILMA and the AIT, workers who are certified to work in a regulated occupation (that is, an occupation regulated by law so that only certified workers can work unsupervised in the occupation) in one jurisdiction must be allowed to practice that occupation in any other jurisdiction where the occupation is regulated.

For example, a gas fitter in good standing from Alberta must be allowed to work as a gas fitter in BC, and a third class power engineer in good standing from Nova Scotia must be allowed to work as a third class power engineer in BC. Both of these occupations are regulated in the provinces where the person wishes to work, which means that they are subject to TILMA in the first case and AIT in the second.

Under the *Safety Standards Act*, the Province of British Columbia needed to ensure that its legal framework would allow certified workers from other jurisdictions in Canada to perform regulated work in BC. For safety reasons, the province also needed to allow a Provincial Safety Manager to attach terms and conditions (i.e., restrictions) to any certificate of qualification issued in BC if the applicant came from a jurisdiction where some aspect of regulated work was “missing” from their original training. For example, an out-of-province power engineer may not have received any refrigeration training or a pressure welder may not have been certified to certain procedures. Under both TILMA and AIT, labour mobility only applies to the scope of work that a person was allowed to perform in their original jurisdiction. Scope of practice and training regimes vary from province to province, so a mechanism was needed in the regulations to ensure that only properly trained persons could be certified by the BC Safety Authority to perform regulated work.

This resulted in the introduction of section 2.1 into the Safety Standards General Regulation. This section only applies to people who need a certificate of qualification issued by the BC Safety Authority. Section 2.1 provides that a person who holds a credential, in good standing, issued in another Canadian jurisdiction may apply to a Provincial Safety Manager for a certificate of qualification to work in BC. It also allows the Provincial Safety Manager to set terms and conditions on any BC certificate to ensure that the BC certificate only allows for the same scope of practice that the applicant enjoyed in his or her original province. The section applies to all of the regulations, despite any restrictions that may be in them respecting who is eligible to apply for a certificate of qualification.

Although not an exhaustive list, section 2.1 applies to the following people from out of province, provided their original certificate is in good standing and that they pass any required test of local BC knowledge (a requirement that is allowed under TILMA and AIT):

- Electricians applying for a certificate of qualification as a Field Safety Representative;
- Gas Fitters (A and B);

- Power Engineers;
- Pressure Welders;
- Oilwell Boiler Operators;
- Gas Utility Technicians;
- Appliance Service Technicians;
- RV Installation and Service Technicians;
- Natural Gas and Propane Vehicle Conversion Technicians;
- Refrigeration Equipment Operators.

It is important to note that the section *only* applies to people who come from a jurisdiction where the occupation is regulated by law. If an occupational title is “optional” in the original jurisdiction, then the section does not apply and a Provincial Safety Manager may set whatever requirements he or she deems necessary for a person to obtain a BC Safety Authority certificate of qualification.

Finally, in the electrical technology, a BC Safety Authority certificate of qualification is not generally required to perform regulated electrical work in BC, unless a person wishes to become a Field Safety Representative. The Provincial Safety Manager responsible for electrical safety will be issuing policies in the months to come that will specify which out-of-province electrical credentials are recognized by the BC Safety Authority, along with their corresponding scopes of practice.

Gas Safety Regulation

Changes to the Gas Safety Regulation are intended to reconcile gas fitter standards with those of Alberta. For many years, BC was the only Canadian jurisdiction that allowed Class B Gas Fitters to perform work on gas appliances and vents up to 220 kW and unlimited piping and atmospheric vents. Other Canadian jurisdictions, including Alberta, restricted Class B Gas Fitters to gas appliances, piping and atmospheric vents up to 120 kW. Therefore, to align BC with Alberta and the rest of the country, section 7 of the Gas Safety Regulation was amended to restrict Class B Gas Fitters to the national 120 kW standard.

In recognition of the fact that Gas Fitters who already have a Class B certificate have been certified to perform work to the 220 kW standard, sections 7 (3) and (4) have been added to the Gas Safety Regulation. Those sections allow a Provincial Safety Manager to “grandparent” existing Class B Gas Fitters to perform work to the same levels as before the change. The section also allows the Provincial Safety Manager to recognize those people currently enrolled in Class B Gas Fitter training to be similarly grandparented.

Changes to section 6 (1) of the regulation affect new applicants for a Class A Gas Fitter certificate of qualification. Section 6 (1) used to state that an applicant must have held a Class B certificate for 2 years. To strengthen the Class A certificate and to reconcile with Alberta, section 6 (1) now states that an applicant must have held a Class B certificate (from any regulated and recognized Canadian jurisdiction) for 2 years *and* completed training in a gas fitting program recognized by a Provincial Safety Manager. Current Class A Gas Fitter certificates will be grandparented, but all new applicants for the Class A Gas Fitter certificate must complete formal training. The BC Safety Authority views this

as an important advancement for the Class A program as education is a key factor in preventing accidents.

Other changes to the Gas Safety Regulation amend section 8 to allow only Class A Gas Fitters to work on three-phase motors (previously, both Class A and Class B Gas Fitters could perform that work, but a review of training materials indicated that three-phase motors should be restricted to Class A Gas Fitters only) and the repeal of section 20. Section 20 used to require gas fitters from out of province to undergo training and/or demonstrate experience above and beyond what a BC gas fitter would have to do. That section was deemed non-compliant with both the TILMA and AIT. The new section 2.1 added to the Safety Standards General Regulation, as discussed above, replaces section 20 of the Gas Safety Regulation for out-of-province gas fitters.

Other than gas fitters, no other occupations regulated by the Gas Safety Regulation are affected by changes resulting from the implementation of the TILMA and AIT. People from outside of BC who wish to apply to work in one of those restricted gas areas will, if regulated in their original jurisdiction, be subject to section 20 of the Safety Standards General Regulation. Applicants for restricted certificates from jurisdictions where the occupation is not regulated must meet the requirements as set out in the Gas Safety Regulation.

Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation

The most extensive regulation changes to accommodate TILMA and AIT occur in the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation. Power engineering is an occupation regulated across Canada. Each jurisdiction, however, has varying amounts of firing time (i.e., experience) requirements for each of the five classes of power engineer and various education requirements that must be met to receive certification as a fifth to first class power engineer. To complicate matters further, each Canadian jurisdiction classifies plants differently – particularly fifth, fourth and third class plants. Plant classifications are important, as the classification of a plant (fifth to first, just as in power engineering) determines the qualifications required for chief and shift power engineers at the plant. In other words, the scope of work that a power engineer is allowed to perform differs from province to province as the plant classifications differ.

For years, BC has stood out among Canadian jurisdictions in requiring more firing time than any other jurisdiction for power engineer candidates. The amendments to the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation make BC as equal to Alberta as possible in this respect and bring BC into line with the rest of Canada. Other amendments to the regulation align plant classifications with Alberta, harmonize terminology, eliminate redundant sections and provide for some general “housecleaning” of the regulation.

Key Definition, Terminology and Plant Classification Changes to the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation

The definitions play an important role in any regulation. Whenever the reader encounters a defined term in the regulation, it has the meaning specified in the “definitions” section. Most of the changes outlined below are intended to simplify and clarify the regulation, as well as to align BC terminology with that of Alberta and the other provinces.

Section 1 Definition Changes

- The definition of “boiler” is amended by adding the words “or heated” after the word “pressurized” in paragraph (b) of the definition.
- The definition of “boiler system” is changed to reflect some of the changes to the definitions in section 2 (see below). The new definition of “boiler system” “means a power plant, heating plant, low temperature low pressure fluid plant, low pressure thermal fluid plant, high pressure thermal fluid plant, oil well plant or pressure plant”.
- The definition of “pressure piping” has been changed to provide further clarity. “Pressure piping” is now defined as a system of pipes, tubes, conduits, gaskets, bolts and other components, the sole purpose of which is the conveyance of either an expansible fluid *or* a non-expansible fluid or thermal fluid with an operating temperature exceeding 121°C or a working pressure exceeding 1100 kPa between two or more points.

Section 2 Definition Changes

The two primary definitions in section 2 are of “power plant” (which is unchanged) and “heating plant” (which has a new meaning). These two plant classifications serve as broad “catch all” categories and they are used throughout the revised regulation. In many cases, the old language has been replaced with the broader new categories. There are too many instances where that has occurred to be mentioned in this document. It is therefore important when reading the information that follows (and the amended regulation itself) to keep in mind these two key plant categories as they are defined in section 2.

- The new definition of “heating plant” “means (a) a boiler in which steam or other vapour may be generated at a pressure not exceeding 103 kPa, or (b) a boiler, other than a low-temperature, low-pressure boiler, in which water or an aqueous solution may be heated to a pressure not exceeding 1100 kPa or a temperature not exceeding 121°C”.

This new definition of “heating plant” resulted in the deletion of the definitions of “fluid plant”, “low pressure fluid plant” and “low pressure steam plant” and numerous other changes where the term “heating plant” now needs to be used instead of the older terms that were deleted throughout the regulation. New definitions of “fluid heating plant” (“a heating plant that heats fluid without vaporization”) and “steam heating plant” (“a heating plant that generates steam or vapour”) have been added.

Another major change to section 2 is the addition of the definitions of first to fifth class plants. Those plant classifications were formerly in the body of the regulation itself. To simplify the regulation (which used to define each plant classification twice) the definitions were moved to section 2. As plant classifications play a major role in the regulation and have changed in some cases due to the TILMA, each is defined below:

- “*First class plant*” means a power plant that exceeds 1000 m² of boiler capacity.
- “*Second class plant*” means a power plant that exceeds 500 m² of boiler capacity but does not exceed 1000 m² of boiler capacity.
- “*Third class plant*” means (a) a power plant that exceeds 100 m² of boiler capacity but does not exceed 500 m² of boiler capacity, (b) a low pressure

- thermal fluid plant that exceeds 1500 m² of boiler capacity, or (c) an unfired plant that exceeds 1000 m² of boiler capacity.
- “*Fourth class plant*” means (a) a power plant that exceeds 50 m² of boiler capacity but does not exceed 100 m² of boiler capacity, (b) a heating plant that exceeds 300 m² of boiler capacity, (c) a low pressure thermal fluid plant that exceeds 500 m² of boiler capacity but does not exceed 1500 m² of boiler capacity, (d) a low temperature low pressure fluid plant that exceeds 1000 m² of boiler capacity, or (e) an unfired plant that exceeds 500 m² of boiler capacity but does not exceed 1000 m² of boiler capacity.
 - “*Fifth class plant*” means (a) a power plant that exceeds 10 m² of boiler capacity but does not exceed 50 m² of boiler capacity, (b) a steam heating plant that exceeds 30 m² of boiler capacity but does not exceed 300 m² of boiler capacity, (c) a fluid heating plant that exceeds 150 m² of boiler capacity but does not exceed 300 m² of boiler capacity, (d) a low pressure thermal fluid plant that exceeds 150 m² of boiler capacity but does not exceed 500 m² of boiler capacity, (e) a low temperature, low pressure fluid plant that exceeds 300 m² of boiler capacity but does not exceed 1000 m² of boiler capacity, or (f) an unfired plant that exceeds 150 m² of boiler capacity but does not exceed 500 m² of boiler capacity.

IMPORTANT NOTE ON PLANT RECLASSIFICATIONS:

Any plant that would be reclassified as a result of the changes above will be subject to the new sections 3 (3) & (4) that have been added to the regulation. These sections provide that affected plants will be grandparented until April 1, 2014 – that is, they will remain the same classification with the same corresponding staffing rules – UNLESS the plant changes its boiler capacity in any way, in which case the plant will be classified according to the new regulation. IMPORTANTLY – under section 3 (3) (b) and also until April 1, 2014 – the changes DO NOT apply to a power engineer in an affected plant as above unless the plant must be reclassified (the power engineer does not have to re-qualify to keep the same position unless the affected plant changes) PROVIDED that the power engineer remains with that affected plant. If a power engineer in an affected plant relocates, the new requirements apply to that power engineer with respect to plant classifications.

Other important changes to the definitions in section 2 are:

- The definition of “assistant engineer” has changed to include “maintenance engineer”;
- The definition of “expansible fluid” has been amended by replacing the former paragraph (c) with a new paragraph (c) that states “liquid under pressure and at a temperature at which the liquid changes to a gas or vapour when the pressure is reduced to atmospheric pressure or when the temperature increases to ambient temperature”;
- The definition of “greenhouse plant”, and the use of the term throughout the regulation, has been deleted;
- “Low pressure thermal fluid plant” has been redefined and “means an assembly of one or more thermal fluid boilers that do not contain an expansible fluid and are protected with temperature control and safety devices that will not permit the

- boilers to continue to operate should the temperature rise to or above the vapour point of the contained thermal fluid at atmospheric pressure”;
- There is a new definition of “refrigeration mechanic” to comply with the TILMA and AIT. The new definition means a person who holds either “(a) an industry training credential issued under the *Industry Training Authority Act* as a refrigeration mechanic, (b) an inter-provincial red seal credential in the trade of refrigeration and air conditioning mechanic, or (c) a credential acceptable to a provincial safety manager”. As the need arises, the Provincial Safety Manager will issue policies with respect to (c) that are TILMA and AIT compliant;
 - The definition of “standardized certificate of competency” has been moved to section 2 from the body of the regulation.

Power Engineer & Operator Qualification Changes

The changes that follow have been made to the qualification requirements for power engineers and operators.

New First Class Qualification Time Requirements

- 30 months as the chief engineer of a second class power plant.
- 30 months as an assistant chief engineer of a first class power plant.
- 30 months as a shift engineer of a first class power plant.
- 45 months as an assistant shift engineer of a first class power plant.

If an applicant for a first class certificate holds an engineering degree acceptable to a Provincial Safety Manager, the required times are reduced by 12 months.

New Second Class Qualification Time Requirements

- 24 months as chief engineer of a third class power plant.
- 24 months as a shift engineer or assistant shift engineer of a second class power plant.
- 24 months as an assistant shift engineer or as an assistant engineer (approved by a Provincial Safety Manager) of a first class power plant.

If an applicant for a second class certificate holds an engineering degree acceptable to a Provincial Safety Manager, the required times are reduced by 12 months.

New Third Class Qualification Time Requirements

- 12 months as a power engineer in a position that requires a fourth class power engineer’s certificate of qualification in a fourth class power plant or higher.
- 24 months as a chief engineer, shift engineer or assistant shift engineer of a fourth class heating plant.
- 36 months as a chief engineer of a fourth class plant other than a power plant or a heating plant.

If an applicant for a third class certificate holds an engineering degree acceptable to a Provincial Safety Manager, the required times are reduced by 6 months.

New Fourth Class Qualification Time Requirements

All applicants for a fourth class certificate must have either completed a fourth class power engineering course approved by the Provincial Safety Manager or hold an

engineering degree acceptable to a Provincial Safety Manager. The qualification times below are in addition to this requirement:

- 6 months as a power engineer in a fifth class plant in a position requiring a fifth class power engineer.
- 6 months as a power engineer trainee in a power plant over 10 m², a steam heating plant over 30 m², a fluid heating plant over 150 m² or a low temperature low pressure fluid plant over 300 m².
- 18 months, acquiring experience acceptable to a Provincial Safety Manager, in the operation, design, construction, repair or maintenance of equipment to which the regulation applies.

New Fifth Class Qualification Requirements

Previously, fifth class power engineering certificates were divided into two categories: boiler endorsement and refrigeration endorsement. With the introduction of the new fifth class standardized power engineer exam, these two categories no longer exist. Instead, there are fifth class power engineers and refrigeration operators under the amended regulation.

All applicants for fifth class power engineer certificates of qualification, except holders of marine engineer (motor) certificates of competency, must either successfully complete an approved fifth class course or provide proof, acceptable to the Provincial Safety Manager, of an equivalent technical background. All applicants must also have either:

- 4 months as a power engineer trainee in a fifth class or higher plant or
- experience, acceptable to a Provincial Safety Manager, of at least 6 months in the design, construction, repair, operation or maintenance of equipment to which the regulation applies.

New Refrigeration Operator Qualification Requirements

In the past, people could qualify for the predecessor of this certificate without having an approved educational background. Under the new regulation, all applicants must either have successfully completed an approved course or have an approved equivalent educational background. In addition, all applicants must have *either* 6 months experience in:

- a refrigeration plant that uses group A3, B2 or B3 refrigerants with a capacity of over 25 kW prime mover nameplate rating *or*
- a refrigeration plant that uses group A1, A2 or B1 refrigerant with over 125 kW prime mover nameplate rating.

New Oil Well Boiler Operator Qualification Requirements

The former requirement for this certificate of qualification was 30 days' experience, an approved course and passing the exam. To reconcile with Alberta requirements, all new applicants must pass the exam after *either* gaining 6 months' experience *or* successfully completing an approved course. Certificate holders are now entitled to operate a power plant that:

- operates on a portable oil rig or drilling site,
- does not exceed 100m² of boiler capacity and
- is named on the certificate of qualification.

Other Changes to the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation

The other changes to the regulation are largely intended to clarify certain issues and to eliminate redundancies or unnecessary requirements. These changes are described below:

- The exemption from the regulation in section 3 (2) (f) has been clarified to now read “a heating plant, refrigeration plant or pressure vessel plant, other than plants with toxic or flammable contents, that are located in a building that contains only 4 or fewer self-contained dwelling units”.
- Two new exemptions were added to clarify that air or hydraulic brake systems subject to the *Motor Vehicle Safety Act (Canada)* and air or hydraulic brake or steering systems for off-road vehicles are not subject to the regulation.
- Section 6 (g) has been amended to clarify that certificate of qualification holders are not required for “an indirect refrigeration plant, as defined in CSA B52, using refrigerant R-11 and all other refrigeration plants with refrigeration groups A1, A2 or B1, as defined in CSA B52, not exceeding a total plant capacity of 200 kW prime mover nameplate rating”.
- Section 9 has been replaced with a new section specifying the rules for holders of marine (steam) certificates of competency issued by Transport Canada. The section specifies that someone who holds a marine (steam) certificate of competency may apply for a power engineer’s certificate of qualification that is one class lower than the marine (steam) certificate if the individual provides evidence, acceptable to a Provincial Safety Manager, of the work experience and other qualifications that are required to obtain the power engineer’s certificate.
- Finally, section 84 (3) has been amended to clarify an exemption from design registration requirements. Pressure piping that is NPS 3 or less or in a heating plant, or a pressure-retaining component that is an integral part of a rotating or reciprocating mechanical device, if the primary design considerations or stresses of the device are derived from the functional requirements of the device, are exempt from design registration requirements.