EC2012-587

BOILERS AND PRESSURE VESSELS ACT
REGULATIONS
AMENDMENT

Pursuant to section 33 of the *Boilers and Pressure Vessels Act* R.S.P.E.I. 1988, Cap. B-5, Council made the following regulations:

1. Section 1.02 of the *Boilers and Pressure Vessels Act* Regulations (EC234/85) is amended by the addition of the following after subsection (2):

(2.1) The Act and these regulations apply in full to internally fired hot water heaters with an internal diameter greater than 152 millimetres. Application, hot water heaters

(2.2) Where in these regulations a measurement is stated in parentheses following a measurement in metric units, the measurement in parentheses is the measurement in English units that is the equivalent of the metric measurement. Equivalent measurements

2. Section 3.01 of the regulations is revoked and the following substituted:

3.01 (1) Subject to the Act and these regulations, the following codes and standards are adopted: Adoption of codes

(a) CSA B-51 Code for the Construction and Inspection of Boilers and Pressure Vessels;
(b) CSA B-52 Mechanical Refrigeration Code;
(c) CSA B-139 Installation Code for Oil Burning Equipment;
(d) CSA B-140.0 General Requirements for Oil Burning Equipment;
(e) CSA Z7396.1 Medical Gas Piping Systems;
(f) CSA B-149.1 Natural Gas and Propane Installation Code;
(g) CSA B-149.2 Propane Storage and Handling Code;
(h) CSA B-149.5 Installation Code for Propane Fuel Systems and Tanks on Highway Vehicles;
(i) the following sections of the ASME Boiler and Pressure Vessel Code:
  (i) Section I Power Boilers,
  (ii) Section II Material Specifications, Parts A, B, C, & D,
  (iii) Section III Nuclear Power Plant Components Division I & II,
  (iv) Section IV Heating Boilers,
  (v) Section V Non-destructive testing,
  (vi) Section VI Recommended Rules for Care of Heating Boilers,
  (vii) Section VII Recommended Rules for Care of Power Boilers,
  (viii) Section VIII Pressure Vessels, Division 1 and 2,
  (ix) Section IX Welding Qualifications,
  (x) Section X Fiberglass Reinforced Plastic Pressure Vessels,
  (xi) Section XI Rules for In-service Inspection of Nuclear Power Plant Components;
(j) the following standards of ANSI, ASME and NFPA:
  (i) B31.1 Power Piping,
  (ii) ANSI Z223.1 and NFPA 54 National Fuel Gas Code,
  (iii) B31.3 Process Piping,
  (iv) B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids,
  (v) B31.5 Refrigeration Piping,
  (vi) NFPA 58 of Liquefied Petroleum Gas Code,
  (vii) NFPA 59 Utility Liquefied Petroleum Gas Plant Code,
  (viii) NFPA 59A Standards for Production, Storage and Handling of Liquefied Natural Gas,
  (ix) B31.8 Gas Transportation and Distribution Piping Systems,
  (x) B31.12 Hydrogen Piping and Pipelines,
  (xi) CSA B-149.6 Code for Digestor Gas and Landfill Gas Installation;
(k) the following standard of NBBI:
  (i) The National Board Inspection Code (NBIC);
(l) the TEMA standards of the Tubular Exchanger Manufacturers Association.

3. Section 5.06 of the regulations is amended by addition of the following after subsection (2):

(3) For the purposes of section 6 of the Act, low-pressure biomass boilers constructed to non-ASME technical standards shall meet the requirements set out in the Schedule to these regulations.

Low-pressure biomass boilers

4. The regulations are amended by the addition of the following after section 5.06:

5.06.1 (1) The registration for a boiler or pressure vessel that does not meet the requirements of the ASME Code but has been approved by the chief inspector shall be valid only while the boiler or pressure vessel remains in its original location.

Non-ASME low-pressure biomass boilers

5. Subsection 5.07(2) of the regulations is amended by the addition of the words "as listed in the Schedule to these regulations**" after the words "**approved by the Chief Inspector**".**

6. Subsection 5.15(3) of the regulations is amended by the deletion of the words "of steel construction**" and the substitution of the words "**in compliance with the applicable code requirements**".**

7. Subclause 5.31(3)(i) of the regulations is amended by the deletion of the word "etc**" and the substitution of the word "**etc.**".**

8. Subsection 5.38(4) of the regulations is amended by the deletion of the words "preceded by a letter**".**

9. Subsection 5.39(5) of the regulations is amended

(a) in clause (b), by the deletion of the words "an applicant**" and the substitution of the words "**the applicant**"; and**

(b) by the revocation of clause (c) and the substitution of the following:

(c) the applicant has furnished proof that the applicant has access to the codes and standards that in the opinion of the Chief Inspector are relevant to the purpose of the license being applied for; and

(d) the prescribed fees have been paid.

10. Subsection 5.40(1) of the regulations is amended by the addition of the words "heating plant or power plant,**" after the words "**pressure plant,**".**

11. Section 5.41 of the regulations is amended

(a) under the heading "SHOP INSPECTIONS**",**

(i) in clause (a), by the deletion of the words "$85**" and the substitution of the words "**$100**", and**

(ii) in clause (b), by the deletion of the words "$125**" and the substitution the words "**$175**";**

(b) under the heading "CONTRACTOR'S LICENSE AND PERMIT**",**

(i) by the deletion of the words "$125**" and the substitution of the words "**$200**",**

(ii) by the deletion of the words "$100**" and the substitution of the words "**$150**", and**

(iii) by the deletion of the words "$25**" and the substitution of the words "**$35**";**

(c) under the heading "SPECIAL INSPECTIONS AND WELDER CERTIFICATION**", by the deletion of the words "**$85**" and the substitution of the words "**$100**";**

(d) under the heading "ADDITIONAL FEES**", by the deletion of the words "**$85**" and the substitution of the words "**$100**"; and**

(e) under the heading "STAMPING**", by the deletion of the words "**$85**" and the substitution of the words "**$100**".**

12. Section 6.05 of the regulations is amended by addition of the following after subsection (2):

(3) A means shall be provided for testing of the low-water cut-off device that does not require draining the entire system and does not render the device inoperable. Testing cut-off device

(4) If the means referred to in subsection (3) temporarily isolates the device from the boiler during testing, a means shall also be provided to reconnect the device automatically to the boiler when testing is completed. Automatic reconnection

(5) Notwithstanding subsection (2), an automatically fired hot water boiler that requires forced circulation to prevent overheating may be equipped with a flow sensing device, instead of a low-water cut-off device, to ensure that the fuel supply to the burner is automatically cut off if the flow rate is reduced to the point where it is inadequate to protect the boiler against overheating. Flow-sensing device

(6) For the purposes of subsection (5), the flow-sensing device shall be Criteria respecting flow-sensing device
(a) installed on the boiler outlet piping;
(b) of a design certified safe and suitable by a testing agency recognized by the Standards Council of Canada;
(c) installed in such a manner that it cannot be rendered inoperative; and
(d) tested under operational conditions.

13. Section 7.01 of the regulations is amended by the deletion of the words "piping system**" and the substitution of the words "**pressure piping system**".**

14. Section 7.02 of the regulations is amended by the deletion of the word "piping**" and the substitution of the words "**piping system**".**

15. Section 7.04 of the regulations is revoked and the following substituted:

7.04 The owner or operator of a boiler, pressure vessel or pressure piping system shall Inspection preparation
(a) furnish the labour and material necessary for an inspection;
(b) fill the boiler, pressure vessel or pressure piping system with water if requested by an inspector;
(c) remove any jacket or covering if requested by an inspector;
(d) drill holes in any location designated by an inspector;
(e) arrange for non-destructive testing as required by an inspector;
(f) bring to the attention of an inspector any defect which the owner or operator knows or believes to exist; and
(g) open the boiler or pressure vessel, including the furnace and other parts to be inspected, remove the manhole and hand-hole covers and have it thoroughly cleaned.

16. Subsection 7.08(1) is amended

(a) by the deletion of the words "every boiler or pressure vessel**" and the substitution of the words "**every boiler, pressure vessel or pressure piping system**"; and**

(b) by the deletion of the words "in his opinion**" and the substitution of the words "**in the inspector's opinion**".**

17. The regulations are amended by the addition of the following heading immediately before section 7.17:

USED EQUIPMENT

18. Subsection 7.25(2) of the regulations is amended

(a) in clause (b), by the deletion of the word "and**" after the semicolon;**

(b) in clause (c), by the deletion of the period and the substitution of the words "; and**"; and**

(c) by the addition of the following after clause (c):

(d) ground fault circuit interrupters shall be used on or with all extension cords.

19. Section 7.29 of the regulations is revoked and the following substituted:

7.29 The following fees for periodic inspection are payable: Periodic fees

(a) Cast iron heating boilers	$ 75
(b) Heating boiler (steel)	
(i) not greater than 800 kW	$ 75
(ii) greater than 800 kW but not greater than 1,800 kW	100
(iii) greater than 1,800 kW but not greater than 5,000 kW	175
(iv) greater than 5,000 kW but not greater than 12,000 kW	225
(v) greater than 12,000 kW but not greater than 36,000 kW	275
(vi) greater than 36,000 kW	350
plus $1.00 per 1,000 kW or part thereof to a maximum fee of	600
(c) Low-pressure biomass boiler	
(i) not greater than 800 kW	$ 75
(ii) greater than 800 kW but not greater than 1,800 kW	100
(iii) greater than 1,800 kW	175
(d) Power boilers	
(i) not greater than 600 kW	$ 75
(ii) greater than 600 kW but not greater than 1,800 kW	115
(iii) greater than 1,800 kW but not greater than 5,000 kW	160
(iv) greater than 5,000 kW but not greater than 12,000 kW	225
(v) greater than 12,000 kW but not greater than 36,000 kW	275
(vi) greater than 36,000 kW but not greater than 75,000 kW	325
(vii) greater than 75,000 kW	350
plus $1.00 per 1,000 kW or part thereof to a maximum fee of	600
(e) For pressure vessels and heat exchangers, the following fees shall apply to the first 3 m of overall length, beyond which an additional fee of $10 for each 3 m or part thereof shall be applied:	
(i) not greater than 600 mm diameter	$ 45
(ii) greater than 600 mm but not greater than 750 mm diameter	65
(iii) greater than 750 mm but not greater than 1,250 mm diameter	80
(iv) greater than 1,250 mm but not greater than 1,750 mm diameter	100
(v) greater than 1,750 mm but not greater than 2,500 mm diameter	125
(vi) greater than 2,500 mm but not greater than 3,000 mm diameter	150
(vii) greater than 3,000 mm diameter	175

20. Section 7.30 of the regulations is revoked and the following substituted:

7.30 The fee for Fees, various

(a) calibrating a pressure gauge is ..... $100 per hour

(b) witnessing the setting and sealing of a safety valve is ..... $100 per hour

(c) a duplicate of a certificate of inspection is $40

(d) a duplicate of an inspection report is $40

(e) reinspection

(i) where the order of the inspector has been carried out ..... No charge

(ii) where the order of the inspector has not been carried out within the specified time $250

21. Subsection 8.32(1) of the regulations is revoked and the following substituted:

8.32 (1) The manufacturer or contractor shall pay a fee according to the following scale for procedure registration and welder certification: Fees

(a) for the survey and registration of a welding procedure.....$70

(b) for transfer of a welder's certificate.....$75

(c) for a single procedure qualification test..... $100 per hour

(d) for a welder's all position certification test in one procedure ..... $100 per hour

(e) for the certification test or retest of a welder on one position..... $100 per hour

22. The heading immediately before section 8.33 of the regulations and sections 8.33 and 8.34 of the regulations are revoked.

23. The heading immediately before section 8.35 of the regulations and section 8.35 of the regulations are revoked.

24. Section 9.01 of the regulations is amended

(a) by the addition of the following after clause (b):

(b.1) "CSA" means the Canadian Standards Association; CSA

(b) in clause (g), by the deletion of the words "20 kilograms**" and the substitution of the words "**20 kilograms (44 pounds)**".**

25. Section 9.03 of the regulations is revoked and the following substituted:

9.03 Except as otherwise provided in these regulations, the standards governing the design, fabrication, installation, testing and inspection of gas piping systems, appliances and fittings shall be those set forth in the latest edition of the following referenced publications and any subsequent amendment, addenda or additions thereto when such publications are approved by the Board: Standards

(a) CSA B149.1 Natural Gas and Propane Installation Code;
(b) CSA B149.2 Propane Storage and Handling Code;
(c) CSA B149.3 Code for the Field Approval of Fuel-related Components on Appliances and Equipment;
(d) CSA B149.6 Code for Digester Gas and Landfill Installations;
(e) CSA Z622 Oil and Gas Pipeline Systems;
(f) CSA B 149.5 Installation Code for Propane Fuel Systems and Tanks in Highway Vehicles.

26. Clause 9.08(1)(b) of the regulations is amended by the deletion of the words "211,000 kilojoules**" and the substitution of the words "**211,000 kilojoules (200,000 BTU)**".**

27. Section 9.16 of the regulations is amended

(a) in clause (c), by the deletion of the words "527500 kilojoules**" and the substitution of the words "**527,500 kilojoules (500,000 BTU)**";**

(b) in clause (g), by the deletion of the words "60 kilograms**" and the substitution of the words "**60 kilograms (132 pounds)**";**

(c) in clause (k), by the deletion of the words "20 kilograms**" and the substitution of the words "**20 kilograms (44 pounds)**"; and**

(d) in clause (m), by the deletion of the words "100 pounds**" and the substitution of the words "**45 kilograms (100 pounds)**".**

28. Subsection 9.21(1) of the regulations is amended

(a) in clause (e), by the deletion of the words "422,000 kilojoules**" and the substitution of the words "**422,000 kilojoules (400,000 BTU)**"; and**

(b) in clause (f), by the deletion of the words "422,000 kilojoules**" and the substitution of the words "**422,000 kilojoules (400,000 BTU)**".**

29. Section 9.24 of the regulations is amended by the deletion of the words "454 kilograms**" and the substitution of the words "**454 kilograms (1,000 pounds)**".**

30. Section 9.28 of the regulations is amended by the deletion of the words "454 kilograms**" and the substitution of the words "**454 kilograms (1,000 pounds)**".**

31. Section 9.30 of the regulations is amended by the deletion of the words "454 kilograms**" and the substitution of the words "**454 kilograms (1,000 pounds)**".**

32. Section 9.33 of the regulations is revoked and the following substituted:

9.33 The following fees are payable Fees

(a) license and certificate fees:
(i) for any class of plant license ..... $0.003 per litre of storage (Minimum charge of $75)
(ii) for an examination for a certificate under section 9.15 .....$40
(iii) for renewal of a certificate for each 12-month period.....$40
(iv) for issue of a duplicate $40
(b) permit fees:
(i) for the initial review and issuance of an installation permit under section 9.08,

(A) for the first 211,000 kilojoules (200,000 BTU) $75
plus
(B) for each increment of 211,000 kilojoules (200,000 BTU) or a fraction thereof.....$30
to a maximum of.....$600
(C) installation of or alteration to filling plants $150
(D) installation of or alteration to dispensing unit.....$100
(E) installation of or alteration to digester gas systems $100
plus $100 per hour for design review

(c) inspection fees:
(i) for an inspection of a pressure vessel used in liquified petroleum gas service having a capacity greater than 454 kilograms (1,000 pounds) of water ..... the fees as set out in clause 7.29(d) apply
(ii) for inspection of new installations and alterations to existing systems meeting the requirements of sections 9.08 and 9.25 ..... $100 per hour
(iii) for inspection of new installations and alterations to existing systems that did not meet the requirements of section 9.08 or 9.25 at the time of activation.....$250
(iv) for inspections defined as special inspections under clause 2.01(m)..... $100 per hour

(d) reinspections:
(i) where the order of the inspector has been carried out ..... No charge
(ii) where the order of the inspector has not been carried out within the specified time.....$250

33. Clause 10.03(1)(a) of the regulations is revoked and the following substituted:

(a) CSA Z7396.1 Medical Gas Pipeline Systems; and

34. Subsection 10.04 of the regulations is amended by the deletion of the words "medical gas systems**" and the substitution of the words "**medical gas piping systems**".**

35. Section 10.05 of the regulations is revoked and the following substituted:

10.05 New installations, extensions, alterations, routine maintenance or repairs to medical gas piping systems shall only be performed by a mechanical contractor licensed to perform such functions.

Installations, repairs, etc. performed by licensed contractors

36. Section 10.06 of the regulations is revoked and the following substituted:

10.06 Any person who installs, repairs or services a medical gas piping system shall hold a subsisting certificate acceptable to the Chief Inspector that authorizes that person to perform such functions.

Installations, repairs, etc. performed by licensed contractors

37. Section 10.07 of the regulations is amended

(a) in clause (b), by the deletion of the words "medical gas systems**" and the substitution of the words "**medical gas piping systems**"; and**

(b) in clause (c), by the deletion of the words "CSA Z305.1 Medical Gas Code**" and the substitution of the words "**CSA Z7396.1 Medical Gas Pipeline Systems**".**

38. Section 10.08 is amended by the deletion of the words "pipe line**" and the substitution the word "**pipeline**".**

39. Section 10.09 of the regulations is amended by the deletion of the words "pipe lines**" and the substitution the word "**pipelines**".**

40. Section 10.13 of the regulations is amended by the deletion of the words "pipe lines**" wherever they occur and the substitution of the word "**pipelines**".**

41. Section 10.16 of the regulations is amended by the deletion of the words "medical gas systems**" and the substitution of the words "**medical gas piping systems**".**

42. Section 10.19 of the regulations is amended by the deletion of the words "medical gas system**" and the substitution of the words "**medical gas piping system**".**

43. Section 10.21 of the regulations is amended by the addition of the words "order a certified medical gas system inspection company**" after the words "**carry out or**".**

44. Section 10.23 of the regulations is amended by the deletion of the words "$85**" and the substitution of the words "**$100**".**

45. Section 11.04 of the regulations is amended

(a) by renumbering it as subsection 11.04(1); and

(b) by the addition of the following after subsection (1):

Exception

(2) Notwithstanding subsection (1), a power engineer or refrigeration operator licensed under the *Power Engineers Act* may service any refrigeration equipment the power engineer or refrigeration operator is employed to operate and maintain.

46. Section 11.10 of the regulations is amended by the addition of the words "pursuant to these regulations**" after the word "**certificate**".**

47. The regulations are amended by the addition of the following after section 12.02:

Schedule part of these regulations

12.03 The Schedule is hereby adopted and forms part of these regulations.

48. The regulations are amended by the addition of the Schedule as set out in the Schedule to these regulations.

49. These regulations come into force on October 20, 2012.

SCHEDULE

SCHEDULE

TECHNICAL STANDARDS FOR NON-ASME CONSTRUCTED LOW-PRESSURE BIOMASS BOILERS

1. In this Schedule,

EN 303-5

(a) "EN 303-5" means European Union Code of Construction for Heating Boilers - Part 5: Heating boilers for solid fuels, manually and automatically stoked;

EN 12953

(b) "EN 12953" means European Union Code of Construction for Shell Boilers;

EN 3834-3

(c) "EN 3834-3" means Quality requirements for fusion welding of metallic materials - Part 3: Standard Quality Requirements;

P.E.D.

(d) "P.E.D." means the Pressure Equipment Directives adopted by the European Parliament and European Council applicable to firetube shell boilers used in low-pressure biomass boilers.

2. The manufacturer of a low-pressure biomass boiler shall

(a) ensure that the manufacturing facility is inspected by an inspection agency approved by the Chief Inspector;

(b) label each boiler to indicate the approved inspection agency that inspected the facility during the manufacturing of the boiler; and

(c) demonstrate that the manufacturing facility has a quality control system that is acceptable to the Chief Inspector.

3. The following are inspection agencies approved by the Chief Inspector for the purposes of section 5.07:

(a) TUV-SUD-SZA Technische Prüf-GmbH;

(b) TUV Austria Services GmbH.

4. (1) In addition to any other applicable provisions of these regulations, a low-pressure biomass boiler constructed in accordance with the requirements of EN 303-5 shall meet the following technical and operational requirements:

(a) labelling shall include metric units where applicable; and
(b) the boiler shall be equipped with an appropriately sized and ASME certified safety relief valve that operates at a pressure not higher than 207 kilopascals (30 psi).

(2) The manufacturer of a low-pressure biomass boiler referred to in subsection (1) shall provide the following documentation to the Chief Inspector:

(a) a certificate from the approved inspection agency confirming that the boiler conforms to the requirements of EN 303-5;
(b) the declaration of the manufacturer respecting all codes and standards applied in the construction of the low-pressure biomass boiler;
(c) the manufacturer's data report for the low-pressure biomass boiler;
(d) the report of a successful pressure test in accordance with EN 303-5 for the boiler design that has been witnessed by the approved inspection agency;
(e) a test report from the manufacturer that shows that an EN303-5 pressure test has been successfully completed for each boiler.

5. (1) In addition to any other applicable provisions of these regulations, a low-pressure biomass boiler with a capacity exceeding that of a boiler designed to meet the requirements of EN303-5 shall meet the following technical and operational requirements:

(a) the boiler shall be constructed in accordance with the requirements of P.E.D.;
(b) labelling shall include metric units where applicable; and
(c) the boiler shall be equipped with an appropriately sized and ASME certified safety relief valve that operates at a pressure not higher than 207 kilopascals (30 psi).

(2) The manufacturer of a low-pressure biomass boiler referred to in subsection (1) shall provide the following documentation to the Chief Inspector:

(a) the declaration of the manufacturer specifying the particular code or standard to which the boiler was constructed, including any additional requirements necessary to ensure that the boiler meets the requirements of P.E.D.;
(b) a certificate from the approved inspection agency confirming the information provided by the manufacturer under clause (a);
(c) the declaration of the manufacturer that the manufacture of the boiler meets standard quality controls in accordance with EN 3834-3;
(d) the manufacturer's data report for the low-pressure biomass boiler;
(e) the manufacturer's drawings and calculations with respect to the boiler; and
(f) a test report from the manufacturer that shows that a hydrostatic pressure test at 1.5 times the maximum allowable pressure has been successfully completed for each boiler, as witnessed and verified by the approved inspection agency.

EXPLANATORY NOTES

SECTION 1 amends section 1.02 of the regulations to add a new subsection (2.01) that clarifies the application of the regulations to hot water heaters with an internal diameter greater than 152 millimetres, and a new subsection (2.02) explaining the addition of equivalent measurements in English units following metric measurements in some sections of the regulations.

SECTION 2 revokes the current section 3.01 of the regulations and substitutes a new section 3.01 to update the codes and standards that are adopted by the regulations in respect of boilers and pressure vessels.

SECTION 3 adds a new subsection 3 to section 5.06 of the regulations to establish the standards that must be met by a low-pressure biomass boiler in order for it to be approved by the Chief Inspector and registered under section 6 of the Act for use in the province. The standards are set out in the new Schedule to the regulations.

SECTION 4 adds a new section 5.06.1 which provides that the registration for a boiler or pressure vessel that does not meet the requirements of the ASME code is valid only while the boiler or pressure vessel is in its original location. This applies to low-pressure biomass boilers since they are manufactured in compliance with codes and standards other than ASME.

SECTION 5 adds a reference to the new Schedule to the regulations in subsection 5.07(2).

SECTION 6 amends subsection 5.15(3) of the regulations by deleting a requirement that a boiler be constructed of steel and substituting a requirement that it be constructed in compliance with the applicable code requirements.

SECTION 7 corrects a typographical error in clause 5.31(3)(i) of the regulations.

SECTION 8 amends subsection 5.38(4) of the regulations by deleting the words “preceded by a letter”, since this style of identifying boilers is no longer used.

SECTION 9 amends subsection 5.39(5) of the regulations to add a new clause (c) that requires an applicant for a contractor’s license to provide proof to the Chief Inspector that the applicant has access to the codes and standards that are relevant to the license being applied for.

SECTION 10 amends subsection 5.40(1) to add a reference to a heating plant or power plant after “pressure plant”. This change will require contractors to obtain permits to install or alter heating plants and power plants in addition to pressure plants.

SECTION 11 amends section 5.41 of the regulations to increase the fees payable for shop inspections, licenses, permits, special inspections, additional fees for calculations and stamping of boilers and pressure vessels.

SECTION 12 amends section 6.05 of the regulations to add new subsections (3) and (4). They provide an exception to the requirement in subsection (2) for a boiler that is not under continuous supervision to be equipped with a low-water cut-off device. Where the boiler uses forced circulation to prevent overheating, a flow sensing device may be used instead to ensure that the fuel supply to the burner is cut off when the flow is reduced.

SECTION 13 amends section 7.01 of the regulations to change the term “piping system” to “pressure piping system”.

SECTION 14 amends section 7.02 of the regulations to change the term “piping” to “piping systems”.

SECTION 15 amends section 7.04 of the regulations to require an operator of a pressure piping system to prepare the system for inspection in the same manner as for inspections of boilers and pressure vessels.

SECTION 16 amends subsection 7.08(1) to add a reference to a pressure piping system, consistent with the amendment to section 7.04.

SECTION 17 amends the regulations by adding a new heading, “Used Equipment”, before section 7.17.

SECTION 18 amends subsection 7.25(2) of the regulations to add a new clause (d) that requires the use of ground fault circuit interrupters with extension cords.

SECTION 19 revokes section 7.29 of the regulations and substitutes a new section 7.29 to establish new fees for periodic inspections.

SECTION 20 revokes section 7.30 of the regulations and substitutes a new section 7.30 to establish new fees for various services.

SECTION 21 revokes subsection 8.32(1) of the regulations and substitutes a new subsection 8.32(1) to establish new fees respecting registration of welding procedures and certification of welders.

SECTION 22 revokes the heading preceding section 8.33 of the regulations and sections 8.33 and 8.34 of the regulations. Testing of welders is now conducted under the *Apprenticeship and Industry Training Act*.

SECTION 23 revokes the heading preceding section 8.35 and section 8.35 of the regulations. Testing of welders is now conducted under the *Apprenticeship and Industry Training Act.*

SECTION 24 amends section 9.01 of the regulations by adding a new clause (b.1) to define "CSA". It also adds an equivalent in English units for the reference in clause (g) to "20 kilograms". Many codes and standards dealing with propane and natural gas originate in the United States and do not use metric measurements.

SECTION 25 revokes section 9.03 of the regulations and substitutes a new section 9.03 to update the codes and standards that are adopted by the regulations in respect of gas piping systems, appliances and fittings.

SECTION 26 amends clause 9.08(1)(b) of the regulations by deleting the words "211,000 kilojoules" and substituting "200,000 Btu" to conform to codes and standards using English units.

SECTION 27 amends section 9.16 of the regulations to add measurements in English units equivalent to those in metric units to conform to codes and standards using English units.

SECTION 28 amends subsection 9.21(1) of the regulations to add measurements in English units equivalent to those in metric units to conform to codes and standards using English units.

SECTION 29 amends section 9.24 of the regulations to add measurements in English units equivalent to those in metric units to conform to codes and standards using English units.

SECTION 30 amends section 9.28 of the regulations to add measurements in English units equivalent to those in metric units to conform to codes and standards using English units.

SECTION 31 amends section 9.30 to add measurements in English units equivalent to those in metric units to conform to codes and standards using English units.

SECTION 32 revokes section 9.33 of the regulations and substitutes a new section 9.33 to establish new fees for various services.

SECTION 33 amends clause 10.03(1)(a) of the regulations to update a standard adopted by the regulations in respect of medical gas piping systems.

SECTION 34 amends subsection 10.04(1) to change the term "medical gas systems" to "medical gas piping systems".

SECTION 35 revokes section 10.05 of the regulations and substitutes a new section 10.05 to change the licensing requirements for contractors who install, maintain and repair medical gas piping systems.

SECTION 36 amends section 10.06 of the regulations to require that the subsisting certificate of qualification to install, repair or service a medical gas piping system shall be one acceptable to the chief inspector.

SECTION 37 amends section 10.07 of the regulations to change the term "medical gas systems" to "medical gas piping systems" and to refer to the new standard adopted under clause 10.03(1)(a).

SECTION 38 amends section 10.08 of the regulations to change the term "pipe line" to "pipeline", for consistency with the standard adopted under clause 10.03(1)(a).

SECTION 39 amends section 10.09 of the regulations to change the term “pipe lines” to “pipelines”, for consistency with the standard adopted under clause 10.03(1)(a).

SECTION 40 amends section 10.13 of the regulations to change the term “pipe lines” to “pipelines”, for consistency with the standard adopted under clause 10.03(1)(a).

SECTION 41 amends section 10.16 of the regulations to change the term “medical gas systems” to “medical gas piping systems”.

SECTION 42 amends section 10.19 of the regulations to change the term “medical gas system” to “medical gas piping system”.

SECTION 43 amends section 10.21 of the regulations to allow an inspector to order a certified medical gas system inspection company to perform an inspection under that section, since an inspection company has specific expertise in the area of medical gas systems.

SECTION 44 amends section 10.23 of the regulations to raise the inspection fee for a medical gas piping system from $85 to $100.

SECTION 45 amends section 11.04 of the regulations by renumbering it as subsection (1) and adding a new subsection (2) that creates an exception to the rule in subsection (1) by authorizing a power engineer or refrigeration operator licensed under the Power Engineers Act to service any refrigeration equipment that the person is employed to operate and maintain.

SECTION 46 amends section 11.10 of the regulations to clarify that the certificate referred to in that section is a certificate issued pursuant to the regulations.

SECTION 47 adds a new section 12.03 that formally adopts the Schedule and makes it part of the regulations.

SECTION 48 amends the regulations by adding the Schedule.

SECTION 49 provides for the commencement of the regulations.

The SCHEDULE establishes the rules that apply to low-pressure biomass boilers constructed to European standards.

SECTION 1 defines terms used in the Schedule.

SECTION 2 establishes inspection and quality control requirements that must be met by the manufacturer of a low-pressure biomass boiler.

SECTION 3 establishes the inspection agencies approved by the Chief Inspector for the purposes of section 5.07 of the regulations.

SECTION 4 establishes additional operational and technical requirements for low-pressure biomass boilers that meet the requirements of EN 303-5, and sets out the documentation that must be provided to the Chief Inspector respecting those additional requirements.

SECTION 5 establishes additional operational and technical requirements for low-pressure biomass boilers that exceed the capacity of boilers governed by EN 303-5, and sets out the documentation that must be provided to the Chief Inspector respecting those additional requirements.

EC2012-588

POWER ENGINEERS ACT
REGULATIONS

Pursuant to section 18 of the *Power Engineers Act* R.S.P.E.I. 1988, Cap. P-15, Council made the following regulations:

1. (1) In these regulations,

Definitions

(a) "accident" means an accident that results in damage to property or injury to or death of a person, brought about by the failure or malfunction of any plant component; — accident

(b) "Act" means the *Power Engineers Act* R.S.P.E.I. 1988, Cap. P-15; — Act

(c) "Analysis" means the Analysis of the Power Engineers trade issued by the Department of Human Resources and Skills Development Canada; — Analysis

(d) "assistant engineer" means the holder of a valid power engineer license who assists the regular shift engineer and is under the shift engineer's direction; — assistant engineer

(e) "chief engineer" means a person who holds a power engineer license of the appropriate classification and is designated by the employer as having charge of a plant; — chief engineer

(f) "continuous supervision" in relation to a boiler, means that an engineer is present in the boiler room at all times; — continuous supervision

(g) "duties" means the duties of employers and employees; — duties

(h) "examiner" means a person appointed as an examiner under the Act; — examiner

(i) "log book" means a record book of plant operations and maintenance; — log book

(j) "low-pressure biomass boiler" means a low-pressure biomass boiler approved and registered by the chief inspector under the *Boilers and Pressure Vessels Act*; — low-pressure biomass boiler

(k) "maintain" includes cleaning, lubricating, correcting and adjusting equipment to ensure safe and efficient operation; — maintain

(l) "overall capacity" means the total kilowatt rating (therm hour rating) of all the boilers connected to a plant system or all the refrigeration compressors in a refrigeration plant; — overall capacity

(m) "plant superintendent" means a person who is employed to supervise the operation of a plant and who holds a valid license of a class appropriate for the operation of that plant or, in relation to a group of plants, of the class appropriate for the operation of the largest of the plants; — plant superintendent

(n) "prime mover" means an initial source of motive power and includes an internal combustion engine, a steam engine, a steam or gas turbine, and an electric motor; — prime mover

(o) "repair" means the process necessary to restore equipment to required operational or physical condition by adjustment, replacement of parts, and overhaul of specific parts, including disassembly, reassembly, removal, and replacement; — repair

(p) "shift engineer" means the holder of a valid power engineer license, who is under the direction of the chief engineer and who is in immediate charge of a shift; — shift engineer

(q) "solid fuel" means any fuel that is burned on a bed or grate rather than in suspension; — solid fuel

(r) "standardized examination" means an examination accepted by the Committee for the Standardization of Power Engineers Examinations in Canada; — standardized examination

(s) "trained personnel" means personnel at a plant who have been trained in the operation of a low-pressure biomass boiler through an industry-based training program approved by the board of examiners under subsection 12(1). — trained personnel

(2) Where more than one plant system is installed on the same premises, the systems shall for the purposes of these regulations be considered as a one-plant system. — One plant system

PLANT REGISTRATION

Application and fee

2. The owner of a plant before placing it in operation shall complete an application for registration of the plant in a form approved by the board and pay the fee set out in the Schedule.

Certificate of plant registration

3. Upon approval of the application, the board shall issue a certificate of plant registration to the plant owner that shows

(a) the name of the plant owner and the address of the plant;

(b) the plant classification;

(c) the kilowatt rating of the plant;

(d) the class of license required to be held by the chief engineer; and

(e) the class of license required to be held by the shift engineer.

Installed - prior to October 1, 2012

4. (1) All plants and boilers installed prior to October 1, 2012, shall be rated by the chief inspector in accordance with this section.

Formulas

(2) The therm hour rating of a plant shall be determined by means of one of the following formulas, as determined by the chief inspector:

(a) Formula 1:

$\frac{X}{100,000}$, where X equals the manufacturer's maximum output rating in British Thermal Units per hour;

(b) Formula 2:

$\frac{W \times CV \times E}{100,000}$, where

(i) W equals the maximum weight of fuel burned per hour,

(ii) CV equals the calorific value of the fuel in British Thermal Units per pound, and

(iii) E equals the maximum efficiency of the boiler.

Measurement for Formula 2

(3) Where the chief inspector determines that Formula 2 shall be used, the owner shall provide and install a flow meter or similar device that is approved by the chief inspector to accurately measure the units of fuel passing through the nozzle during a maximum firing condition.

Kilowatt rating of plant

(4) The kilowatt rating of a plant shall be determined by multiplying the results of the calculation of Formula 1 or Formula 2 by 100,000 and then dividing the result by 3,413.

Heating plant or power plant, rating

(5) The kilowatt rating (therm hour rating) of a heating plant or power plant is the overall capacity, as determined by the chief inspector, of the boilers that are located on the site.

Installed - after Oct. 1, 2012

5. (1) All plants and boilers installed after October 1, 2012, shall be rated by the chief inspector in accordance with this section.

Definitions

(2) In this section, "Section I" and "Section IV" mean, respectively, the sections of the ASME Boiler and Pressure Vessel Code dealing with power boilers and heating boilers, adopted under section 3.01 of the *Boilers and Pressure Vessels Regulations*.

Section I power boilers

(3) The chief inspector shall determine the rating by converting

(a) for Section I power boilers, the manufacturer's maximum design steaming capacity measured in pounds per hour or kilograms per hour; and

(b) for Section I high temperature water boilers, the manufacturer's maximum designed output in British Thermal Units per hour,

to kilowatts in accordance with the appropriate conversion factor set out in subsection (5).

Section IV heating boilers

(4) The chief inspector shall determine the rating for Section IV heating boilers by converting the manufacturer's minimum relief valve capacity

(a) measured in pounds per hour or kilograms per hour for steam boilers; and

(b) measured in BTU/hr for hot water boilers,

in accordance with the appropriate conversion factor set out in subsection (5).

Conversion factors

(5) The conversion factors for the purposes of this section are as follows:

1 kilowatt = 1 pound per hour x 0.284

1 kilowatt = 1 kilogram per hour x 0.625

1 kilowatt = 1 British Thermal Units per hour x 0.000293

1 kilowatt = 1 square foot of heating surface x 1.0194

1 kilowatt = 1 square metre of heating surface x 0.09471

Exception

(6) Notwithstanding section 4(1), with respect to a Section I power boiler manufactured prior to 1994 where

(a) the manufacturer's rating is expressed in square feet of heating surface; and

(b) the boiler has not been modified to operate at a lower capacity than originally designed,

the chief inspector may determine the rating of the boiler in accordance with this section.

Prime mover, rating

6. (1) For a prime mover in a refrigeration plant,

(a) the kilowatt rating is the maximum brake horsepower for its normal continuous operation, as determined by its manufacturer, multiplied by 0.7457; and

(b) the therm hour rating is the maximum brake horsepower for its normal continuous operation, as determined by its manufacturer, multiplied by 0.02544.

Refrigeration plant, rating

(2) The kilowatt rating (therm hour rating) of a refrigeration plant is the total kilowatt ratings (therm hour ratings) of all the prime movers used to drive the refrigeration machinery.

Electric boiler, rating

7. For an electric boiler,

(a) the kilowatt rating is the kilowatt rating indicated by its manufacturer; and

(b) the therm hour rating is the maximum number of kilowatts supplied to the boiler per hour for its normal continuous operation, as determined by its manufacturer, multiplied by 3,413 and divided by 100,000.

Boiler, isolated

8. (1) An inspector may require a boiler to be isolated from a plant system if the overall capacity of the plant system, when that boiler is connected to the plant system, would result in a kilowatt rating that would require

(a) supervision of the plant by a power engineer, where the plant system would not otherwise require such supervision; or

(b) supervision of the plant by a power engineer who holds a higher class of license than the plant system would otherwise require.

Boiler, isolated

(2)Where a boiler is required to be isolated from a plant system, a section shall be removed from the boiler outlet piping at or near the boiler.

Isolated boiler placed into service

(3) If a boiler that has been isolated is placed into service, the owner shall ensure that an inspector is notified prior to the boiler being put into service and that a power engineer who holds a license of the required class is in attendance.

Low-pressure biomass boiler

9. (1) Notwithstanding subsection 8(1), where a building is primarily heated by means of a low-pressure biomass boiler, and the overall capacity of the plant system when the standby boiler is connected to the plant system exceeds the kilowatt rating that would require supervision of the plant by a power engineer, the standby boiler may remain connected to the plant system and be set to operate automatically when the low-pressure biomass boiler shuts down for any reason and the hot water heating system has fallen to a temperature of 75 degrees C, if the controls to operate the standby boiler are equipped with a monitoring and control system approved by the chief inspector to notify trained personnel of the shutdown of the low-pressure biomass boiler and the automatic operation of the standby boiler.

Standby status

(2) The operator shall ensure that

(a) the low-pressure biomass boiler is returned to operation as the primary heat source for the plant heating system as quickly as is consistent with standard operating procedures for the boiler; and

(b) the standby boiler is shut down as soon as the low-pressure biomass boiler resumes operating as the primary heat source in accordance with clause (a).

Plants classified

10. Plants are classified as follows:

First Class	23,440 kilowatts (800 therm hours)
Second Class	above 11,720 kilowatts (400 therm hours) but not over 23,440 kilowatts (800 therm hours)
Third Class	above 2,930 kilowatts (100 therm hours) but not over 11,720 kilowatts (400 therm hours)

Fourth Class (heating plant)	above 1,465 kilowatts (50 therm hours) but not over 5,860 kilowatts (200 therm hours)
Fourth Class (power plant)	above 439.5 kilowatts (15 therm hours) but nor over 2,930 kilowatts (100 therm hours)
Refrigeration A	above 586 kilowatts (20 therm hours)
Refrigeration B	above 74.5 kilowatts (2.544 therm hours) but not over 586 kilowatts (20 therm hours)
Trained personnel	low-pressure biomass boiler below 1,464 kilowatts (50 therm hours)

Change in plant classification

11. If there is

(a) a change of ownership; or

(b) any addition to or deletion from a registered plant that would change the kilowatt or therm hour rating of that plant,

the plant shall be re-registered and a new certificate of registration issued.

BOARD OF EXAMINERS

Board

12. (1) The board of examiners shall

(a) hold meetings at such times as the chairman may determine or at the request of the Minister;

(b) review applications received for examination for licenses and decide if the applicants have the qualifications required by these regulations;

(c) notify the applicant of the time and place of the examination;

(d) select examination papers for all classes of licenses;

(e) when necessary, assist the examiner in the conducting of examinations;

(f) assess the marks obtained in an examination;

(g) determine the appropriate class of license to be issued to a successful candidate;

(h) review all applications for certificates of plant registration and determine the classification and kilowatt rating of plants;

(i) review all applications for transfer of licenses issued in any other jurisdiction;

(j) review all applications for enrollment in full-time and part-time courses for upgrading power engineering qualifications;

(k) review and approve industry-based training programs for the training of personnel in the operation of low-pressure biomass boilers.

Suspension or cancellation

(2) The board may suspend or cancel a license or a certificate of plant registration where, on reasonable grounds,

(a) the board believes; or

(b) the chief inspector advises the board that the chief inspector believes

that a contravention of the Act or these regulations has occurred or is occurring.

Report to Minister

(3) The chair of the board shall, following a board meeting, submit to the Minister a report on the subjects dealt with and the decisions made by the board.

EXAMINATIONS

Examination papers

13. (1) The examination papers for all classes of licenses shall be those that have been accepted by the Committee for the Standardization of Power Engineers Examinations in Canada as meeting national standards, and are in use in the standardization program.

Approval of board

(2) Examination papers for refrigeration licenses shall be approved by the board.

Candidate requirements

(3) A candidate shall, at least 15 days before the date fixed for examination, submit

(a) an application in a form approved by the Minister;

(b) the appropriate fee set out in the Schedule; and

(c) copies of testimonials or other evidence respecting the candidate's experience.

Experience qualification

(4) The qualifications of a candidate relating to his experience in the installation, operation, and repairing of boilers, pressure vessels, pressure piping and related equipment, may be proved by testimonials signed by

the employer or chief engineer of the plant in which he was employed or by statutory declarations made by responsible persons who have personal knowledge of the facts that are to be established.

Educational qualification

(5) Educational qualifications shall be vouched for by documents issued by the institution in which the candidate received his training.

ISSUE OF LICENSES TO PERSONS QUALIFIED IN ANOTHER PROVINCE

License to person qualified in another province

14. (1) A person who has obtained a power engineer's license by successfully passing the standardized examination in any other Canadian province shall be issued a license under these regulations if

(a) the person

(i) completes and files with the board an application for transfer in a form approved by the board, and

(ii) pays the appropriate fee set out in the Schedule; and

(b) the board obtains confirmation of the issue of the person's license from the issuing authority.

Conditions

(2) A person who holds a license issued by the appropriate authority in any jurisdiction which did not use a standardized examination to determine the person's competency may be granted a license under these regulations if

(a) the person

(i) completes and files with the board an application for transfer in a form approved by the board, and

(ii) pays the appropriate fee set out in the Schedule; and

(b) the board

(i) obtains confirmation of the issue of the person's license from the issuing authority, and

(ii) determines that the license held by the person is equivalent to a license issued under these regulations.

Temporary license

(3) The chief inspector may issue a temporary license to a person who meets the requirements of clause (1)(a) for a term to be determined by the chief inspector.

POWER OF BOARD TO ISSUE DISPENSATION

Chief engineer

15. (1) If a person is employed as chief engineer in a plant where during the course of the person's employment as chief engineer the plant has expanded, with the result that the plant's rating now requires the chief engineer to hold a higher class of license, the board may, on the recommendation of the chief inspector, grant the person a dispensation from the requirement to hold that higher class of license and permit the person to continue to act as chief engineer in that plant.

Shift engineer

(2) If a person

(a) has been employed as a shift engineer in a plant for the last three years;

(b) holds a class of license one class lower than the class required for the operation of the plant; and

(c) is actively engaged, in accordance with the direction of the board, in obtaining the class of license required for the operation of the plant,

the board may, on the request of the employer and the recommendation of the chief inspector, permit the person to act as chief engineer while holding a class of license one class lower than required for the operation of the plant.

Dispensation for certain positions

(3) Notwithstanding subsection (1), the chief engineer in a plant may apply to the board for a dispensation from the requirements of clauses 19(3)(b) and (c) and (4)(b) and (c) with respect to the class of license required for certain shift engineer or assistant engineer positions in that plant.

Application for dispensation

(4) An application under subsection (3) shall be in writing and shall

(a) state the name, certification level and experience of the engineer in respect of whom the dispensation is sought; and

(b) include documents verifying that the engineer is engaged or enrolled in an upgrading course in power engineering to attain the required level of certification.

(5) The board may grant a temporary dispensation reducing the class of license required for the position by one level of class and may impose such conditions as it considers appropriate. Grant subject to conditions

LICENSES

16. (1) Power engineer licenses shall be classified as follows: Classes of licenses

Power Engineer Fourth Class
Power Engineer Third Class
Power Engineer Second Class
Power Engineer First Class
Power Engineer Refrigeration B
Power Engineer Refrigeration A

(2) Licenses shall be issued in a form approved by the board. Form

(3) Licenses shall expire on the date indicated in the license and may be renewed on payment of the renewal fee set out in the Schedule. Expiry

(4) A license shall contain the following information: Composition

(a) classification;
(b) whether the license is standardized or provincial;
(c) the positions that the holder of the license may be employed to fill;
(d) the date the license was first issued and the date of expiry.

QUALIFICATIONS FOR CANDIDACY

17. (1) Any person may be a candidate for a fourth-class license who Fourth class

(a) has
(i) not less than 12 months' experience in installation, operation and repair of boilers, pressure vessels, pressure piping and related equipment, and
(ii) completed an upgrading course in power engineering fourth class as required by the board; and
(b) has completed, at any recognized trade school or university, a full-time course in power engineering fourth class.

(2) Any person may be a candidate for a third-class license who is the holder of a valid fourth-class license and has since the issue of that license Third class

(a) for a period of one year
(i) operated as chief engineer or shift engineer in a heating plant or power plant, or
(ii) operated as assistant shift engineer in a heating plant or power plant; and
(b) has completed an upgrading course in power engineering third class as required by the board.

(3) Any person may be a candidate for a second-class license who is the holder of a valid third-class license and has, since the issue of that license, not less than 24 months' experience in aggregate in the following capacities or any combination of them: Second class

(a) chief engineer or shift engineer in a registered power plant having a rating greater than 2,930 kilowatts (100 therm hours);
(b) shift engineer or assistant engineer in a registered power plant having a rating greater than 11,729 kilowatts (400 therm hours);
(c) has for a period of not less than 24 months operated as an assistant shift engineer in a registered power plant having a rating greater than 23,440 kilowatts (800 therm hours).

(4) Any person may be a candidate for a first-class license who is the holder of a valid second-class license and has since the issue of that license not less than 24 months' experience in aggregate in the following capacities or any combination of them: First class

(a) chief engineer or shift engineer in a registered power plant having a rating greater than 11,729 kilowatts (400 therm hours);
(b) shift engineer or assistant engineer in a registered power plant having a rating greater than 23,440 kilowatts (800 therm hours);
(c) has for a period of 12 months been employed as plant supervisor in a registered power plant having a rating greater than 11,729 kilowatts (400 therm hours).

(5) Any person may be a candidate for a refrigeration class B license who has Refrigeration class B

(a) not less than 12 months' experience (at least 3 of which are in operation) in the installation, operation and repair of industrial refrigeration systems; or
(b) not less than 6 months' experience in the operation of an industrial refrigeration plant having a kilowatt (therm hour) rating greater than 74.5 kilowatts (2.544 therm hours).

Refrigeration class A

(6) Any person may be a candidate for a refrigeration class A license who is the holder of a valid class B license and has, since the issue of that license, not less than 12 months' experience in the following capacities or any combination of them:
(a) chief engineer or shift engineer in a registered refrigeration plant having a rating greater than 74.5 kilowatts (2.544 therm hours);
(b) shift engineer or assistant engineer in a registered refrigeration plant having a rating greater than 586 kilowatts (20 therm hours).

Unsuccessful candidate

(7) If a candidate fails an examination, 90 days shall elapse before the candidate is eligible to rewrite that examination.

Pass marks

(8) Pass marks for all examinations shall be 65%.

Exception

(9) If a candidate achieves a mark in an examination that is greater than 49% but less than 65%, the candidate may rewrite the examination on a date determined by the chief inspector that is earlier than the date required under subsection (7).

RECOGNITION OF EQUIVALENT TRAINING AND EXPERIENCE

Equivalent training

18. A person having special engineering training in a recognized university or having completed a course in power engineering satisfactory to the board, or having experience in the construction or repair of boilers, may be granted such time in lieu of practical operating experience as the board deems fair and reasonable.

CAPACITIES IN WHICH LICENSED ENGINEERS MAY BE EMPLOYED

First class employment capacity

19. (1) The holder of a valid first-class license may be employed as chief engineer or shift engineer in any registered plant.

Second class

(2) The holder of a valid second-class license may be employed as
(a) chief engineer of
(i) any registered heating plant,
(ii) any registered power plant not exceeding 23,440 kilowatts (800 therm hours),
(iii) any registered refrigeration plant; or
(b) shift engineer of
(i) any registered heating plant,
(ii) any registered power plant,
(iii) any registered refrigeration plant.

Third class

(3) The holder of a valid third-class license may be employed as
(a) chief engineer of
(i) any registered heating plant,
(ii) a registered power plant not exceeding 11,720 kilowatts (400 therm hours),
(iii) any registered refrigeration plant not exceeding 586 kilowatts (20 therm hours);
(b) shift engineer of
(i) any registered heating plant,
(ii) a registered power plant not exceeding 23,440 kilowatts (800 therm hours),
(iii) any registered refrigeration plant; or
(c) assistant engineer in any registered plant.

Fourth class

(4) the holder of a valid fourth-class license may be employed as
(a) chief engineer of
(i) a registered heating plant not exceeding 5,860 kilowatts (200 therm hours),
(ii) a registered power plant not exceeding 2,930 kilowatts (100 therm hours);
(b) shift engineer of
(i) any registered heating plant,
(ii) a registered power plant not exceeding 11,720 kilowatts (400 therm hours),

(iii) any registered refrigeration plant; or

(c) assistant engineer in a registered plant not exceeding 23,440 kilowatts (800 therm hours).

Refrigeration class A

(5) The holder of a valid refrigeration class A license may be employed as chief engineer or shift engineer of any registered refrigeration plant.

Refrigeration class B

(6) The holder of a valid refrigeration class B license may be employed as

(a) chief engineer of a registered refrigeration plant not exceeding 586 kilowatts (20 therm hours);

(b) shift engineer of any registered refrigeration plant.

DUTIES OF EMPLOYERS

Chief engineer designated

20. (1) In a registered plant where two or more power engineers are employed to operate the plant, the employer shall designate one of them as chief engineer of the plant.

Log book

(2) The employer shall provide a log book for use in the plant in a form approved by the chief inspector.

Idem

(3) The employer or the employer's designate shall note the entries made in the log book for each twenty-four-hour period and shall sign or initial the log entries for each such period.

Tools and equipment

(4) The employer shall supply all the necessary tools, equipment, parts and supplies to enable power engineers to operate, maintain and repair all plant components as required by the employer.

Storage area

(5) The employer shall provide a suitable storage area or stock room for the retention of the tools, equipment, parts and supplies mentioned in subsection (4).

DUTIES OF CHIEF ENGINEER

Chief engineer

21. (1) The chief engineer shall be held accountable to the employer for the proper care and safe operation of the boilers, pressure vessels and related equipment under the chief engineer's charge.

Casualties

(2) The chief engineer shall report all accidents and casualties.

Defects

(3) The chief engineer shall report to the employer and to an inspector any defects that may have been discovered by or reported to the chief engineer which could endanger the safety of the boilers, pressure vessels or related equipment.

Duties of chief engineer

(4) The chief engineer shall

(a) take all measures necessary to maintain the plant in a safe operating condition and notify the employer of the measures taken;

(b) direct and supervise shift supervisors or shift engineers, as the case may be, in their work and duties to ensure the safe operation of the plant;

(c) be responsible for the safekeeping of all tools, equipment and supplies provided by the employer for the operation, maintenance and repair of the plant; and

(d) ensure that the engineer in charge of each shift records in the log book

(i) the date, number and designation of the shift and the engineer's name,

(ii) the completion of the applicable tasks and subtasks set out in the Analysis,

(iii) any change from normal operating procedures and the time at which the change occurred,

(iv) any special instructions which may have been given to effect the change referred to in subclause (iii), and the name of the person who gave the instructions,

(v) any unusual or abnormal conditions observed in the plant and the time of observation,

(vi) repairs to any part of the plant and the time the repairs were begun and, if completed on the engineer's shift, the time they were completed, and

(vii) the times at which the engineer's shift began and ended.

DUTIES OF SHIFT ENGINEER

Shift engineer duties

22. The shift engineer shall

(a) under the direction of the chief engineer be responsible for

(i) safe operation of the plant, and

(ii) supervision of other employees on the shift who are under the shift engineer's control;

(b) maintain close watch on the condition and repair of all equipment in the plant and report to the chief engineer any condition that may impair the safety of the plant;

(c) take all measures that are necessary to prevent any immediate danger;

(d) ensure that an accurate record of matters that may affect the safety of the plant is made and maintained at all times during the shift period; and

(e) ensure that all maintenance and operational work performed on the plant is in accordance with safe operating procedures and accepted engineering practices.

DUTIES OF ASSISTANT SHIFT ENGINEER

Assistant shift engineer

23. The assistant shift engineer shall be under the direction and supervision of the chief engineer or the shift engineer, as the case may be, and be responsible for

(a) the safe operation of a particular section of the plant;

(b) ensuring that an accurate record of matters that may affect the safety of that section of the plant is made and maintained at all times during the shift period; and

(c) the performance of such maintenance and operational work on the plant as may be directed by the chief engineer or the shift engineer.

OPERATIONAL REQUIREMENTS

Supervision of boiler

24. (1) Subject to subsection (3), in any plant when the heat source of a boiler other than a low-pressure biomass boiler of a capacity less than 1464 kw is created by the burning of a solid fuel, the boiler shall be under continuous supervision.

Low-pressure biomass boiler

(2) A low-pressure biomass boiler referred to in subsection (1) shall be operated and maintained by only trained personnel.

Exception, automatic shut out device

(3) Subsection (1) does not apply when the fuel is burned in a fuel cell exterior to the boiler and automatic controls will reduce the combustion air to zero in the event of an abnormal condition.

Protective devices

(4) A boiler that is not required to be under continuous supervision pursuant to subsection (1) shall be provided with protective devices satisfactory to the chief inspector which may include

(a) a high-pressure limiting device on a steam boiler or a high-temperature limiting device on a hot-water boiler, as the case may be;

(b) an independent low water cut out control which will shut off the fuel to the burner in the event of a low water condition;

(c) a prepurge and flame failure device that will automatically prevent the supply of fuel to the boiler when an abnormal condition occurs during the operation of the boiler;

(d) a high-water level limiting device that controls the supply of feedwater to the boiler; and

(e) an alarm system that is audible in any part of the premises on which the plant is situated and in which persons may be present or an electronic pager system that is approved by the chief inspector.

Idem

(5) The protective devices prescribed in subsection (4) must

(a) be manually reset after shut down; and

(b) maintain the warning until the abnormal condition has been corrected.

Unattended premises

(6) A power plant or heating plant having a rating less than 2,930 kilowatts (100 therm hours) may be left unattended and in operation for up to 12 hours if the premises are unoccupied and the plant is equipped with protective devices in accordance with this section.

Idem

(7) A refrigeration plant having a rating less than 586 kilowatts (20 therm hours) may be left unattended and in operation provided the

premises are unoccupied and the plant is equipped with protective devices satisfactory to the chief inspector.

Refrigeration plant – ammonia

(8) Where the total rating of all plants using ammonia as a refrigerant on a site is more than 402 kilowatts (300 horsepower) but less than 586 kilowatts (430 horsepower), the plants shall be supervised by a power engineer who holds the appropriate license for that rating at all times when the premises are occupied.

Operation requirements

25. In addition to the requirements of subsection 24(4), where the boiler is a low-pressure biomass boiler as referred to in subsection 24(1),

(a) the low-pressure biomass boiler and associated fuel handling equipment shall be housed in a free-standing building that is constructed so that dust cannot readily accumulate and is separated by a minimum of 4 metres from the building being heated;

(b) the building housing the low-pressure biomass boiler shall be equipped with an audible carbon monoxide alarm system;

(c) the low-pressure biomass boiler shall be equipped with air-flow proving switches designed to shut down the fuel supply to the boiler when air flow to the boiler is inadequate for safe combustion;

(d) the low-pressure biomass boiler shall be equipped with control systems satisfactory to the chief inspector to ensure that the boiler safety relief valve does not allow the pressure to rise more than 10% above the maximum operating pressure, as verified periodically by an inspector, due to heat retained in the combustion chamber when the boiler shuts down for any reason;

(e) the fuel supply system for the low-pressure biomass boiler shall be designed to ensure that a source of ignition cannot travel back from the combustion chamber along the fuel supply system to the fuel storage facility; and

(f) the fuel storage facility shall be equipped with a detection system, acceptable to the chief inspector, that admits quenching water when excessive heat is detected.

OFFENCES CONCERNING LOG BOOK

Offences concerning log book

26. (1) No person shall deface, damage or destroy a log book.

Removal of log book

(2) No person shall remove the log book from a plant without the permission of the employer.

Access to log book

(3) The employer shall ensure the log book is kept accessible in the plant for at least one year after the last entry therein and shall produce the log book upon the request of an inspector.

Revocation

27. The *Power Engineers Act* Regulations (EC22/80) are revoked.

Commencement

28. These regulations come into force on October 20, 2012.

SCHEDULE

TABLE OF FEES

1. On application for examination for a power engineer's license:
   - First Class (8 exams x $40) $320
   - Second Class (6 exams x $40) 240
   - Third Class (4 exams x $40) 160
   - Fourth Class (2 exams x $40) 80
   - Refrigeration A (2 exams x $40) 80
   - Refrigeration B (1 exam x $40) 40
2. To rewrite any examination: 40
3. On application for transfer of a license, for each 12-month period issued in another province: $40
4. On application for renewal of a license, for each 12-month period: $40
5. On application for registration of a plant:
   - First Class $500
   - Second Class 400
   - Third Class 300
   - Fourth Class 200
   - Refrigeration A 300
   - Refrigeration B 200
6. On application for re-registration of a plant: $200

EXPLANATORY NOTES

SECTION 1 establishes definitions for the purposes of the regulations, and clarifies the application of the regulations to multiple plant systems installed in the same premises.

SECTION 2 requires the owner of a plant to apply to have the plant registered in accordance with the regulations before placing the plant into operation.

SECTION 3 authorizes the board to register a plant pursuant to an application made under section 2 and sets out the information to be contained in the certificate of plant registration.

SECTION 4 establishes the formulas to be used by the chief inspector for the purpose of rating the capacity of plants installed prior to October 1, 2012.

SECTION 5 establishes the methods to be used by the chief inspector for the purpose of rating the capacity of power plants installed after October 1, 2012.

SECTION 6 establishes the rules respecting the capacity rating of refrigeration plants.

SECTION 7 establishes the rules respecting the capacity rating of electric boilers.

SECTION 8 authorizes an inspector to require that a boiler be isolated from the plant system where the total capacity of the system with the boiler connected would change the rating of the plant. The section also provides for the method of isolating the boiler and the requirements for putting an isolated boiler back into operation.

SECTION 9 authorizes an exception to subsection 8(1) with respect to low pressure biomass boilers, in order to allow a standby boiler to remain connected to the system so that it can provide automatic backup heating in the event that the low pressure biomass boiler shuts down for any reason.

SECTION 10 classifies plants according to their kilowatt or therm hour ratings and the required level of supervision by power engineers.

SECTION 11 requires that a plant be re-registered where there has been a change of ownership or a change to the kilowatt or therm hour rating of the plant.

SECTION 12 establishes the duties, responsibilities and powers of the board of examiners.

SECTION 13 establishes the examinations for candidates for power engineer licenses and refrigeration licenses.

SECTION 14 provides for the granting of licenses and temporary licenses to persons who hold power engineers' licenses in other Canadian provinces.

SECTION 15 authorizes the board to make exceptions to the class of license requirements of section 10 for a chief engineer or a shift engineer of a plant in specified circumstances.

SECTION 16 establishes the classes of power engineers' licenses and the information a license must contain.

SECTION 17 establishes the criteria that must be met by a candidate for each class of license.

SECTION 18 authorizes the board, in granting a license, to recognize a candidate's specialized training or experience.

SECTION 19 establishes the capacities in which the holders of the different classes of power engineers' licenses may be employed.

SECTION 20 establishes the duties of an employer of power engineers, such as designating one power engineer as the chief engineer of the plant, providing a log book for use in the plant, initialling the entries made in the log book, and providing necessary tools, equipment and parts and suitable storage facilities.

SECTION 21 establishes the duties of the chief engineer of a plant with respect to the proper care and safe operation of all boilers, pressure vessels and related equipment under the chief engineer's charge.

SECTION 22 establishes the duties of a shift engineer of a plant respecting the safe operation of the plant and the supervision of other employees under the shift engineer's control.

SECTION 23 establishes the duties of an assistant shift engineer of a plant with respect to the safe operation of the shift engineer's part of the plant and the keeping of accurate records with respect to that operation.

SECTION 24 establishes operational requirements for boilers that burn solid fuel, in particular the requirement for continuous supervision or the use of protective devices to warn of abnormal conditions in the operation of the boiler.

SECTION 25 establishes additional requirements for the operation of low-pressure biomass boilers.

SECTION 26 provides that it is an offence to deface, damage or destroy a log book or to remove a log book from a plant without permission.

SECTION 27 revokes the previous *Power Engineers Act* Regulations.

SECTION 28 provides for the coming into force of these regulations.

The SCHEDULE establishes fees for examinations and licenses under the regulations.