



TECHNICAL STANDARDS &  
SAFETY AUTHORITY  
4<sup>th</sup> Floor, West Tower  
3300 Bloor Street West  
Toronto, Ontario  
Canada M8X 2X4

**IN THE MATTER OF:**

**THE *TECHNICAL STANDARDS AND SAFETY ACT 2000*,  
S. O. 2000, c. 16**

**- and -**

**ONTARIO REGULATION 219/01 made under the  
*Technical Standards and Safety Act 2000*  
(The Operating Engineers Regulation)**

**DIRECTOR'S ORDER**

The Director, of the Operating Engineers Regulation, *Technical Standards and Safety Act, 2000*, S.O. 2000, c. 16, pursuant to his authority as provided for in Section 36 (3) (c) of the *Technical Standards and Safety Act, 2000*, hereby orders the following:

1. The previous Director's Order varying the Operating Engineers Regulation (219/01) and dated June 27<sup>th</sup>, 2001 is hereby revoked and replaced with the following order.
2. Effective immediately Ontario Regulation 219/01 (being the Ontario Regulation made under the *Technical Standards and Safety Act 2000* for Operating Engineers) is hereby varied as follows:
  - i) The definition of dual control boiler is replaced with the following; "dual control boiler" means a steam or hot water boiler intended to be operated at high pressure or high temperature that is equipped with a control device that allow its operation either at high pressure or high temperature or low pressure or low temperature and includes a device for recording pressure or temperature.

- ii) In the definition Temporary Heating Plant in parts (a and b) the reference to BHP is replaced with bhp.
- iii) In Section 6 (2) (f) the reference to “the power rating” is replaced with “the engine power rating”;
- iv) In Section 9 (2) the reference to “P.L.A.N./3300 X 2” is replaced with “P.L.A.N./33000 X 2”
- v) Subsection 15 (3) is replaced with “Despite subsection (2), an alternative arrangement may be made for replacing the absent person as long as that arrangement is consistent with the safe operation of the plant and is approved by the Chief Officer”;
- vi) In Section 23 (1) the reference to Sections 39, 40 or 43 is replaced with Sections 39, 42 or 45;
- vii) In Section 24 (2) the reference to Sections 39, 43 or 45 is replaced with Sections 39, 42 or 45;
- viii) In Section 31 (4) the reference to “use of a registered plant” is replaced with “user of a registered plant”;
- ix) In Subsection 42 (3) the reference to subsection 45 (4) is replaced with subsection 45 (3);
- x) In subsection 43 (1) the reference to “1471 kW (150 BHP, 50 TH)” is replaced with “1471 kW (150 bhp, 50 TH)”, the reference to 15 psi (103 kpa) is replaced with “15 psi (103 kpa) or less than 212°F (100°C) and the reference to “(a) a hard wired low pressure control device that restricts the operating pressure of the dual control boiler to 15 psi (103 kpa); and” is replaced with “(a) a hard wired low pressure or temperature control device that restricts the operating pressure of the dual control boiler to 15 psi (103 kpa) or temperature to 212°F (100°C).”
- xi) In subsection 43 (2) the reference to “the results obtained from the pressure recording device” is changed to “the results obtained from the pressure or temperature recording device”.
- xii) In Section 45 (1) the reference to Sections 39 and 42 is replaced with Sections 39 and 45;

## **TABLES**

### **TABLE 1**

- xiii) The “Form 1” attached to this Director’s Order is added to the regulation before Table 1

xiv) Under the column “To Convert” the following changes are made:

- (a) After the word Therm/hour add (TH);
- (b) After the word Kilowatt add (kW);
- (c) After the word Boiler horsepower add (bhp);
- (d) After the word Kilowatt add (kW);
- (e) After the word Brake horsepower add (BHP); and
- (f) After the word kilowatt add (kW)

TABLE 2

- xv) The instructions for use of Table 2 and 3, 4, 5, 6 and 7, attached to this Director’s Order are added to the regulation before Table 2;
- xvi) On Table 2 in Section A under 4<sup>th</sup> Class for Limited combined Plant rating (L.V. & H.W. boilers excluded) the reference to “<4856 kW-LP” is replaced with “<5005 kW-LP”;
- xvii) On Table 2 in Section A under 4<sup>th</sup> Class for Limited combined Plant Rating (L.V. & H.W. boilers excluded) the reference to “<2403 kW-HP” is replaced with “<2552 kW-HP”;
- xviii) On Table 2 in Section A under 2<sup>nd</sup> Class the words “Limited boiler Plant Rating, Unlimited Prime Mover Plant Rating” are replaced with “Limited Boiler Plant rating, Unlimited Prime Mover Plant rating.”
- xix) On Table 2 in Section D under 3<sup>rd</sup> Class for Hot Water Boilers the reference under Low Temp. to “<23,543 kW (240 bhp 803TH)” is replaced with “<23,543 kW (2400 bhp, 803TH)”;
- xx) On Table 2 in Section E under 4<sup>th</sup> Class for Refrigeration the reference to “<149kW (200 bhp 5TH)” is replaced with “<298 kW (400 BHP, 10TH)”;
- xxi) On Table 2 in Section E under 3<sup>rd</sup> Class for Refrigeration the reference to “<597 kW (800 BHP, 20TH)” is replaced with:  
  
“R13 and R18 = <597 kW (800 BHP, 20TH)  
R7 = <746 kW (1000 BHP, 25TH)”
- xxii) On Table 2 in Section F under 3<sup>rd</sup> Class for Class B Refrigeration Operator the reference to “<597 kW (800 BHP, 20TH)” is replaced with:  
  
“R13 and R18 = <597 kW (800 BHP, 20 TH)  
R7 = <746 kW (1000 BHP, 25 TH)”

### TABLE 3

- xxiii) On Table 3 under Explanatory Notes and Additional Requirements the reference to “Certificate Operating Engineer” is replaced with “Certified Operating Engineer”.
- xxiv) On Table 3 under Explanatory Notes And Additional Requirements the reference to, “A low water tube boiler shall be equipped with the fail safe devices specified in Section 39” is replaced with, “A water tube low water volume boiler shall be equipped with the fail safe devices specified in Section 39”.
- xxv) On Table 3 under Plant Requirements for Registration (C) the reference to “ATTENDED – 8HR/DAY OF OPREATION – 4<sup>TH</sup> CHIEF” is replaced with, “ATTENDED – 8HR/DAY OF OPERATION – 4<sup>TH</sup> CHIEF”.
- xxvi) On Table 3 under Plant Requirements for Registration (C) the reference to “ATTENDED – 8HR/DAY OF OPREATION – 2<sup>ND</sup> CHIEF” is replaced with “ATTENDED – 8HR/DAY OF OPERATION – 2<sup>ND</sup> CHIEF”.
- xxvii) On Table 3 under Plant Code B20 the reference to “ATTENDED - 4<sup>TH</sup> CHIEF 4<sup>TH</sup> SHIFT” as a plant requirement for registration is replaced with “ATTENDED – 2<sup>ND</sup> CHIEF & 3<sup>RD</sup> SHIFT”.
- xxviii) On Table 3 under Rating for Plant Code “B23 < 3924 (400 bhp, 134TH)” is replaced with “<3924 kW (400 bhp, 134TH)”.
- xxix) On Table 3 under Plant Code B26 the reference to “<294kW (30 BHP 10TH)” under rating (B) is replaced with “<294 kW (30 bhp 10TH)”.
- xxx) On Table 3 under type of Boiler Plant (A) (to the left of B30) under Hot water boilers the reference to “Boiler and systems water content greater than 750 Gal (3410 L) or less,” is replaced with, “Boilers and systems water content greater than 750 Gal (3410 L)”.
- xxxii) On Table 3 under type of Boiler Plant (A) (to the left of B29) under hot water boilers the reference to “Flooded volume boiler water greater than 150 Gal (682 L) or less,” is replaced with, “Flooded volume boiler water content greater than 150 Gal (682 L)”.

#### Addendum to Table 3:

- xxxii) On Table 3 reference to Table 3 (cont) is changed to addendum to Table 3.
- xxxiii) “In the event steam boilers systems water capacity of 750 Imperial Gallons (3401 L),” is replaced with “In the event steam boiler systems water capacity of 750 imperial gallons (3410 L).”

#### Table 4

- xxxv) On Table 4 under Plant Code P4 the reference to “<7kW (10 bhp, 25TH)” under rating (B) is replaced with “<7 kW (10 BHP, 25TH)”.
- xxxvi) On Table 4, under Requirements (C), in the vertical columns the word “Registration” is changed to “Registered”.

#### Table 5

- xxxvii) Under Explanatory Notes the reference to operator is changed to Operator.

#### Table 6

- xxxviii) On Table 6 Explanatory Notes the reference to “Compressor Operator Certificate of Qualification are not” is replaced with “Compressor Operator Certificate of Qualification is not”.
- xxxix) On Table 6 under Explanatory Notes and Additional Requirements the reference to “Plants R 9, R 13, R 14 may have guarded controls applied in order to allow operator attendance as prescribed in Sections 23-24” is replaced with “Plants R 9, R 14, R 18, R 19, R 22 may have guarded controls applied in order to allow operator attendance as prescribed in Section 23-24”.
- xl) On Table 6 the enclosed Plant Codes R 15 – R 22 are added to the Table.

#### Table 8

- xli) On Table 8 under Minimum Plant Size Code and Service Time in the time column beside Code B24 for First Class, the reference to “more than 6 m of total” is replaced with “not more than 6 m of total”.
- xlii) On Table 8 under Minimum Plant Size Code and Service Time in the time column beside Code B24 for Second Class, the reference to “total as chief” is replaced with “total”.
- xliii) Under exemptions to Practical Qualifying Time Experience Training Course Practical Time Reduction (see B) “24 months” is replaced with “24 hours”.
- xliv) The chart code requirements for Table 8 is replaced with the “Instructions for Use of Table 8” which is attached to this Director’s Order.

2. The form a Testimonial of Qualifying Experience referred to in Section 33 of Ontario Regulation 219/01 shall be in the form attached to this Director's Order as Form 1.

Dated at Toronto this 3<sup>rd</sup> day of February, 2003

*ORIGINAL SIGNED*

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John W. B. Coulter  
Chief Officer, Operating Engineers Regulation  
*Technical Standards and Safety Act*

**Form 1**

*Technical Standards and Safety Act, 2000*

**TESTIMONIAL OF QUALIFYING EXPERIENCE**

Company Name .....

Company Address .....

Plant Registration No. .... Total kW Rating .....

Type of Plant .....

This will certify that .....  
*(Print name of person receiving experience)*

was engaged as a .....  
*(Position held – Operating Engineers, Operator or Operating Assistant)*

in the operation of the indicated registered plant equipment from ..... to  
*(Date)*

..... and has attained a total ..... full time equivalent  
*(Date)* ..... *(No. of Months)*

months training and/or operating time experience required for ..... class certification.  
*(Class of Certificate Desired)*

REGISTERED EQUIPMENT EXPERIENCE	REGULATIONS DESIGNATED EQUIPMENT CODE	REGISTERED KW POWER RATING	EXPERIENCE TIME						
			OPERATING			MAINTENANCE			ACADEMIC
			Days	Weeks	Mths	Days	Weeks	Mths	Months
Boilers									
Steam Prime Movers									
Compressors									
Refrigeration									
Steam Traction			Hours			Hours			Hours
An official testimonial letter from the approved course authority indicating a passing completion of the course must support qualifying time credit for academic courses.									
Boiler operation is mandatory for Operating Engineers and Steam Traction Operators									

As the applicant for certification as a ..... I certify  
*(Class of Certificate Desired)*  
 that my indicated plant equipment, experience and academic time testimony is true and correct.

.....  
*(Applicant's Signature)* ..... *(Date)*

As the ..... Certificate Class ..... Number ..... of  
*(Chief Operating Engineer/Operator or Company Official)*

Registered Plant R- ..... I ..... certify that the information provided on this testimonial of service  
*(Print Name)*  
 relating to operating and maintenance experience is true and correct and I recommend that ..... be granted  
 the requested certificate. *(Applicant Name)*

.....  
*(Signature)* ..... *(Date)* ..... *(Telephone)*

## **OPERATING ENGINEERS REGULATION**

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### **CHIEF OPERATING ENGINEERS AND CHIEF OPERATORS CERTIFICATE OF QUALIFICATION LIMITED PLANT OPERATING AUTHORITY**

#### **INSTRUCTIONS FOR THE USE OF TABLE 2**

Sections A - B - C - D - E have been column aligned to indicate the Limited Operating Authority of a specific class of Operating Engineer, 1st, 2nd, 3rd, 4th, relative to the combined energy items [excluding low water volume water tube boilers (LV) and hot water boilers (HW)] in Section (A) and the specific energy items Steam Boilers (B), Low Water Volume Water Tube Boilers (C), Hot Water Boilers (D) and Steam Prime Movers - Compressors - Refrigeration (E).

Limited operating authority when using L.V. or H.W. boilers, add column C or D to E rather than B.

Each energy item B - C - D - E is restricted within a max >, min < kW, high pressure (HP), low pressure (LP) or temperature range for each class of Operating Engineer.

In order to determine the Limited Operating Authority of any Operating Engineer one simply observes the power or temperature limits designated in the vertical columns below the Operating Engineer Classification.

The separate boxes (F) for Compressor Operator, Class B and A Refrigeration Operator and Steam Traction Operator clearly present the Limited Plant Operating Authority of each class.



## OPERATING ENGINEERS REGULATION

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### PLANT REQUIREMENTS FOR REGISTRATION

#### INSTRUCTIONS FOR USE OF TABLES 3 – 4 – 5 – 6 - 7

Type of Plant (Column A) presents the type of energy item plant (Boiler, Steam Prime Mover, Compressor, Refrigeration, Traction) and the technical conditions related to its plant **Registration**.

Rating (Column B) presents the range of kW energy ratings of the item in A.

Plant Requirements for **Registration** (Column C) presents the range of **operating** requirements which will apply to a specific kW energy rating as presented in column B relative to the Type of Plant as presented in column A.

Type of Plant “A” + rating “B” = Plant Requirements for **Registration** “C.”

The Plant Code within Column C allows a convenient locator and reference to a specific type of **registered or unregistered** plant. The prefix before the code number indicates the type of plant. (“B” = Boilers, “P” = Steam Prime Movers, “C” = Compressors, “R” = Refrigeration, “T” = Traction).

REFRIGERATION PLANTS REGISTRATION REQUIREMENTS  
TABLE 6

PLANT TYPE (A) IS POWER RATED (B) TO DETERMINE REGISTRATION REQUIREMENT (C)												
EXPLANATORY NOTES AND ADDITIONAL REQUIREMENTS		PLANT REQUIREMENTS FOR REGISTRATION (C)										
		PLANT CODE	UNREGISTERED	UNATTENDED	REGISTERED	GUARDED CONTROLS	MAINTENANCE PROGRAM	ATTENDED - 8HR/DAY OF OPERATION - 4TH CLASS/B-CHIEF	ATTENDED-8HR/DAY OF OPERATION - 3RD CLASS/B-CHIEF	ATTENDED - 8HR/DAY OF OPERATION-2ND CLASS/A-CHIEF	ATTENDED-3RD CLASS/B-CHIEF & 4TH CLASS/B-EACH SHIFT	ATTENDED - 2ND CLASS/A-CHIEF & 3RD CLASS/B-EACH SHIFT
TYPE OF PLANT REFRIGERATION PLANT (A)	RATING & REFRIGERATION CAPACITY (B)											
BUILT UP PLANT	< 22 kW (30 BHP, 0.76TH)	R10	✓	✓								
	> 22 kW (30 BHP, 0.76 TH) < 149 kW (200 BHP, 5TH)	R11		✓	✓	✓	✓					
<ul style="list-style-type: none"> <li>• No refrigerant field piping (Indirect)</li> <li>• All units or installations</li> </ul>	> 149 kW (200 BHP, 5TH) < 298 kW (400 BHP, 10TH)	R12			✓	✓		✓				
	> 298 kW (400 BHP, 10TH) < 597 kW (800 BHP, 20TH)	R13			✓	✓			✓			
	> 597 kW (800 BHP, 20TH)	R14			✓							✓
	< 22 kW (30 BHP, 0.76TH)	R15	✓	✓								
<ul style="list-style-type: none"> <li>• Refrigerant piping outside machinery room (Direct)</li> <li>• All units or installations</li> </ul>	> 22 kW (30 BHP, 0.76TH) < 75 kW (100 BHP, 2.5TH)	R16		✓	✓	✓	✓					
	> 75 kW (100 BHP, 2.5TH) < 298 kW (400 BHP, 10 TH)	R17			✓	✓		✓				
	> 298 kW (400 BHP, 10 TH) < 597 kW (800 BHP, 20TH)	R18			✓						✓	
	> 597 kW (800 BHP, 20TH)	R19			✓							✓
	< 22 kW (30 BHP, 0.76TH)	R20	✓	✓								
<ul style="list-style-type: none"> <li>• Must be independent systems</li> <li>• Each compressor unit &lt; 30 BHP</li> <li>• Each system &lt; 100 BHP</li> </ul>	> 22 kW (30 BHP, 0.76TH) < 597 kW (800 BHP, 20TH)	R21		✓	✓	✓	✓					
	> 597 kW (800 BHP, 20TH)	R22			✓							✓

Refer to Instructions on Page

## INSTRUCTIONS FOR USE OF TABLE 8

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- As prescribed, all candidates for a **Certificate of Qualification** must pass an examination determined by the Chief Officer.
- Candidates for 4th Class Operating Engineer, Compressor Operator and Refrigeration Class B Operator examination must be at least 18 years of age.
- A person who is the holder of a certificate issued by the Canadian Armed Forces that the Chief Officer considers equivalent to the practical qualifying time and examinations for 1-2-3-4 Operating Engineer shall be deemed to have met those qualifications.
- A person who is the holder of a 2nd or 1st Class Marine Engineers certificate according to S.T.C.W. or is a mechanical engineering C.E.T., professional or chartered engineer, acceptable to the Chief Officer, is exempt from the mathematics and science theory components of the 2nd and 1st Class examinations.
- Candidates for 1st - 2nd - 3rd Class Operating Engineer or Class A Refrigeration Operator certification may commence writing the respective class of examination upon receiving their 2nd - 3rd - 4th Class Operating Engineer or Class B Refrigeration Operator certificate, as the case may be.
- Candidates for a 4<sup>th</sup> Class Operating Engineer, Compressor Operator, Refrigeration Class B Operator or Steam Traction Operator may commence writing the respective class of examination at any time.
- Candidates for any class of certification as an Operating Engineer or Operator who have passed the required examinations, or any parts thereof, must obtain their certificate of qualification within five (5) years of such passing or re-writing of the examination will be required.
- A candidate for certification as a Compressor Operator or Refrigeration Operator, (Class A or B) who has completed a period of practical plant energy rating experience time in a registered attended compressor or refrigeration plant as prescribed by the former *Operating Engineers Act* and Regulations 904, will be permitted to apply such time rating to the changed practical plant energy rating experience time requirements prescribed by the Operating Engineers Regulation (O.Reg. 219/01) until the plant is re-registered to conform with the registration requirements of the Operating Engineers Regulation. Upon the plant re-registration, the candidate may retain the practical plant energy rating experience time gained prior to re-registration for application to the requirements of certification.

**Part A =** The practical qualifying time experience required for each certificate of Qualification.

**Part B =** The maximum full time attendance at a training course approved by the Chief Officer, which may be subtracted from practical (A) time. A further time reduction incentive has also been granted on the 1 – 2 – 3 – 4 Operating Engineers and Traction Operator Certificates. The full time course for 1<sup>st</sup> and 2<sup>nd</sup> Class may be substituted for 126 hours per examination paper of evening school course for 1<sup>st</sup> Class and 84 hours per examination paper for 2<sup>nd</sup> Class. Courses shall be approved by the Chief Officer and no incentive time reduction will be granted for evening school training. With the approval of the Chief Officer the approved training course school which operates a registered shift engineer attended plant providing full time operating services may provide the minimum three month for 4<sup>th</sup> Class and the minimum one month for 3<sup>rd</sup> Class practical experience. Such approval shall be governed by the number of shift scheduled trainees relative to plant size/rating and shift time period. Registered attended plants shall not be used as an approved course training plant lab and practical operating experience plant simultaneously.

**Part C =** The maximum full-time registered plant installation, service and repair time approved by the Chief Officer which may be subtracted from the required compressor or refrigeration practical (A) time.

**Part D =** The class of Marine Engineering Officer certificate (steam or motor with steam endorsement) according to the S.T.C.W. requirements which will allow the candidate to write an equal class of certification with no further qualifying experience time (N.Q.T.) required. Operating experience on motorship steam plants will be considered equivalent provided it is equal to the experience time, power and equipment rating required for Operating Engineers.

**Part E =** The non certified officer (rating rank) Marine Operating experience time on boilers, engines and auxiliaries of merchant and naval ships which may be subtracted from the maximum required practical (A) time. No further qualifying experience time (N.Q.T.) required.

**Part F =** · Shall be at least 16 years of age.

- A holder of a Certificate of Qualification as any class of Operating Engineer or Marine Engineer (steam or motor with steam endorsement according to the S.T.C.W.), with acceptable experience, is exempt from writing the examination and shall be issued on application and upon payment of the appropriate fee, a Certificate of Qualification as a Steam Traction Operator.
- In order to qualify for exemption from the examination the authorized candidate must provide satisfactory proof of practical operating experience on fire tube boilers, solid fuel firing, reciprocating steam engines, injectors and steam pumps. Failure to provide such proof will require the candidate to pass examination questions based on those subjects.