

Operating Engineers Compliance Standard & Inspection Checklist

October 23, 2025



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Agenda:

1. What is Compliance Standard
2. OE Compliance Standard
3. Inspection Checklist
4. Roundtable
5. Next Steps

What is Compliance Standard

- Compliance Standards are an **evidence-based** and **data-driven** approach to identify which areas are most correlated to risk
- Compliance standards are a **periodic inspection** tool:
 - ✓ Identifies the high-risk non-compliances, if found on a periodic inspection, follow-up to confirm compliance
 - ✓ If not corrected, the follow-up inspection will result in a shut down
 - ✓ supports industry with understanding safety priorities that may pose a high-risk if not immediately addressed
 - ✓ focuses owners, contractors, mechanics and inspectors on high-risk non-compliances
 - ✓ Improves inspection consistency
 - ✓ acknowledges that regulated parties have the primary responsibility for compliance and can resolve safety tasks (low- or medium-risk non-compliances) without further TSSA inspection
- Compliance Standards will be available on TSSA's website to ensure transparency
- Compliance Standards are dynamic and will be re-assessed on an on-going basis

How are Compliance Standards Developed



Risk assessment of standard orders associated with periodic inspection



Inflection point analysis



Internal approval to proceed



Industry working group and inspection review



Review and revise compliance standard based on feedback



Finalize Compliance standard



Implementation – webinars with industry and internal training prior to launch

OE Compliance Standard

OE Compliance Standard (Page 1) Note: TTC = Time to Comply

#	Standards Order	Authority	TTC*
1	Comply with section 27 of O. Reg 219/01 and ensure that every certificate of qualification shall be for the period stated in it.	O. Reg 219/01 27. , 27	0
2	Comply with section 14(4) of O. Reg 219/01 and the owner or user of the registered plant shall ensure that a sufficient number of qualified operating engineers and/or operators are employed to operate the plant and its installations in accordance with the Act and this Regulation consistent with the plant's size and equipment.	O. Reg 219/01, s. 14 (4)	14
3	Comply with section 39 of O. Reg 219/01 and ensure that the defective fail safe limiting device(s) are repaired.	O. Reg 219/01, 39	0
4	Comply with section 39(9) of O. Reg 219/01 and ensure that the fail safe limiting device(s) are tested, tagged, and logged at least once per year.	O. Reg 219/01, 39(9)	14
5	Comply with section 45(4) of O. Reg 219/01 and ensure an emergency external plant shutdown system tested and tagged, in accordance with the manufacturer's instructions or at least once per year.	O. Reg 219/01, 45(4)	14
6	Comply with section 8.4.1 of CSA B52 and ensure the refrigerant gas detector, ventilation system and alarm shall be tested and tagged, in accordance with the manufacturer's instructions or at least once per year.	B52:23, 8.4.1	14
7	Comply with section 39(5), 39(6) and 39(7) of O. Reg 219/01 and ensure an audible and visual alarm system is installed and triggered when an unsafe or abnormal condition occurs.	O. Reg 219/01, 39(5), 39(6) & 39(7)	14
8	Comply with Table 3, 4, 5, and 6 of O. Reg 219/01 as applicable and ensure that a planned maintenance program is developed, implemented and performed by qualified persons for the plant equipment.	O. Reg 219/01 , Tables 3,4,5,6	14

*TTC – Time To Comply



OE Compliance Standard (Page 2)

#	Standards Order	Authority	TTC
9	Comply with section 46 of O. Reg 219/01 and ensure that a procedure manual, including emergency response plan procedures, are available and in effect for the plant.	O. Reg 219/01 , 46	14
10	Comply with section 24(5) of O. Reg 219/01 and ensure that access is controlled and secured to prevent unauthorized access to the plant and there is appropriate signage.	O. Reg 219/01 , 24(5)	14
11	Comply with section 37 of O. Reg 219/01 and ensure that there is a logbook in effect for the plant that complies with this section.	O. Reg 219/01 , 37(1)	14
12	Comply with section 41 of O. Reg 219/01 and ensure that a registered boiler shall be provided with water conditioning services that meet the analysis and treatment recommendations of the boiler's manufacturer and that are provided by the plant operating staff or contractor based on a scheduled procedure that is logged.	O. Reg 219/01 41, 41	14
13	Comply with section 39(8) of O. Reg 219/01 and clause 7.3 of CSA B52 and ensure that the operating engineer or operator in charge of a boiler, steam prime mover, compressor or refrigeration compressor, shall ensure that the safety valves and other fittings, prescribed in Ontario Regulation 220/01 (Boilers and Pressure Vessels) are installed correctly and in safe working condition.	O. Reg 219/01 39. (8), 39(8)	14
14	Comply with section 6.2.3 of CSA B52 and ensure that an approved refrigeration gas detector and ventilation system shall be installed.	B52-23, 6.2.3	14
15	Comply with section 5 of O. Reg. 220/01 (Boilers and Pressure Vessels) and obtain a valid certificate of Inspection for the boiler/pressure vessel.	O. Reg 220/01, 5	14

*TTC – Time To Comply



Initial and Periodic Inspection Checklist

OE Draft Checklist *(yellow highlighted are only on initial) Note: CS=Compliance Standard*

#	Checklist Question	Type	Checklist Behavior	Standard Order	CS
1	Is the plant registered?	General	If no, issue the order and move to Q2, if yes move to Q2	Comply with section 4(1) of O.Reg 219/01 and ensure the plant is registered.	N
2	Is access controlled and secured to prevent unauthorized access to the plant with appropriate signage?	General	If no, issue order and move to Q3; If yes move to Q3	Comply with section 24(5) of O. Reg 219/01 and ensure that access is controlled and secured to prevent unauthorized access to the plant and there is appropriate signage.	Y
3	Is the plant registration is posted in a conspicuous location?	General	If no, issue order and move to Q4; If yes move to Q4	Comply with section 7 of O. Reg 219/01 and ensure that the plant registration is posted in a conspicuous location.	N
4	Does the plant registration reflect the registerable equipment/seals contained in the plant?	General	If no, issue order and move to Q5; If yes move to Q5	Comply with section 6 of O. Reg 219/01 and ensure the plant is re-registered to reflect the change, modification, or the sealing of equipment.	N
5	Does the plant registration reflect the class of Operators/Operating Engineers required at the plant?	General	If no, issue order and move to Q6; If yes move to Q6	Comply with section 8(2) of O. Reg 219/01 and ensure the plant is re-registered to reflect the change in the classes of operating engineers or operators.	N
6	Do the boilers and Pressure Vessels hold a valid certificate of inspection?	General	If no, issue order and move to Q7; If yes move to Q7	Comply with section 5 of O. Reg. 220/01 (Boilers and Pressure Vessels) and obtain a valid certificate of Inspection for the boiler/pressure vessel.	Y
7	Does the plant require attendance as per table 3, 4, 5, or 6 of Regulation?	General	If no move to Q15, if yes move to Q8		
8	Are all non-exempt equipment, which do not have guarded controls, attended?	General	If no issue order and move to Q9, if yes move to Q9	Comply with table 3, 4, 5, or 6 of O. Reg 219/01 and ensure that all non-exempt equipment which do not have guarded controls are attended.	N
9	Does the Chief Operating Engineer/ Operator posses the required certificate?	General	If no, issue order and move to Q10; If yes move to Q10	Comply with section 14(1)(a) of O. Reg 219/01 and ensure that the designated Chief Operating Engineer/Operator possesses the required certificate as per the plant registration.	N
10	In the absense of Chief Engineer/Operator, is there a replacement who holds the appropriate certificate, can perform the same functions and has the same work schedule?	General	If no, issue order and move to Q11; If yes move to Q11	Comply with section 15(2) of O. Reg 219/01 and ensure that in the absence of the Chief Engineer/Operator there shall be a person acting in replacement who holds a class of certification not less than one class lower than that required to operate the plant. The person acting in replacement shall perform the same functions and have the same work schedule as the person replaced.	N

OE Draft Checklist

#	Checklist Question	Type	Checklist Behavior	Standard Order	CS
11	Does the plant operating engineer/operator hold the appropriate certificate?	General	If no, issue order and move to Q12; If yes move to Q12	Comply with section 30 of O. Reg 219/01 and ensure that plant Operator holds a certificate of qualification to perform the work and duties of an Operating Engineer/Operator consistent with the requirements of the plant registration and this Regulation.	N
12	Are the Operating Engineers/Operators certificates posted in a conspicuous location?	General	If no, issue order and move to Q13; If yes move to Q13	Comply with section 28(1) of O. Reg 219/01 and ensure that the Operating Engineers/Operators' certificates are posted in a conspicuous location within the registered plant.	N
13	Are all certificates current?	General	If no, issue order and move to Q14; If yes move to Q14	Comply with section 27 of O. Reg 219/01 and ensure that every certificate of qualification shall be for the period stated in it.	Y
14	Are there sufficient number of qualified Operating Engineers/Operators?	General	If no, issue order and move to Q15; If yes move to Q15	Comply with section 14(4) of O. Reg 219/01 and the owner or user of the registered plant shall ensure that a sufficient number of qualified operating engineers and/or operators are employed to operate the plant and its installations in accordance with the Act and this Regulation consistent with the plant's size and equipment.	Y
15	Are fail safe limiting devices installed (low water cutoff, high water flame failure, high pressure, etc)?	General	if no issue order and move to Q16, if yes move to 16	Comply with section 39 of O. Reg 219/01 and ensure the fail safe limiting device(s) are installed.	N
16	Are all fail safe limiting devices functioning properly (low water cutoff, high water flame failure, high pressure, etc)?	General	If no, issue order and move to Q17; If yes move to Q17	Comply with section 39 of O. Reg 219/01 and ensure that the defective fail safe limiting device(s) are repaired.	Y
17	Are all fail safe limiting devices are tested, tagged and logged at least once per year (low water cutoff, high water flame failure, high pressure, etc)?	General	If no, issue order and move to Q18; If yes move to Q18	Comply with section 39(9) of O. Reg 219/01 and ensure that the fail safe limiting device(s) are tested, tagged, and logged at least once per year.	Y
18	Is there an audible and visual alarm when an unsafe condition is triggered by a fail safe limiting device?	General	If no, issue order and move to Q19; If yes move to Q19	Comply with section 39(5), 39(6) and 39(7) of O. Reg 219/01 and ensure an audible and visual alarm system is installed and triggered when an unsafe or abnormal condition occurs.	Y
19	Does the audible/visual alarm extend to any area of the plant where the operator may be present?	General	If no, issue order and move to Q20; If yes move to Q20	Comply with section 39(5)(b) of O. Reg 219/01 and ensure the audible/visual alarm extends to any area of the plant or premise where the operator may be present.	N
20	Is there a plant maintenance program implemented and performed by qualified persons?	General	If no, issue order and move to Q21; If yes move to Q21	Comply with Table 3, 4, 5, and 6 of O. Reg 219/01 as applicable and ensure that a planned maintenance program is developed, implemented and performed by qualified persons for the plant equipment.	Y

OE Draft Checklist

#	Checklist Question	Type	Checklist Behavior	Standard Order	CS
21	Is there a procedure manual including emergency response available and in effect for the plant?	General	If no, issue order and move to Q22; If yes move to Q22	Comply with section 46 of O. Reg 219/01 and ensure that a procedure manual, including emergency response plan procedures, are available and in effect for the plant.	Y
22	Is there a compliant log book in effect for the plant?	General	If no, issue order and move to Q23; If yes move to Q23	Comply with section 37 of O. Reg 219/01 and ensure that there is a logbook in effect for the plant that complies with this section.	Y
23	Are all safety valves and other fittings installed correctly and in safe working condition?	General	If no, issue order and move to Q24; If yes move to Q24	Comply with section 39(8) of O. Reg 219/01 and clause 7.3 of CSA B52 and ensure that the operating engineer or operator in charge of a boiler, steam prime mover, compressor or refrigeration compressor, shall ensure that the safety valves and other fittings, prescribed in Ontario Regulation 220/01 (Boilers and Pressure Vessels) are installed correctly and in safe working condition.	Y
24	Are there registered refrigeration compressors in the plant?	Refrigeration	If no, move to Q25; If yes move to Q24.1		
24.1	Are the pressure gauges constructed for at least 1.2 times the design pressure?	Refrigeration	If no issue order and move to 24.2, if yes move to 24.2	Comply with clause 5.8.3 of the CSA B52 code and ensure that a pressure gauge, when permanently installed on the high side of a refrigeration system, shall be constructed for at least 1.2 times the design pressure.	N
24.2	Are all valves, piping systems and equipment safety devices appropriately identified?	Refrigeration	If no, issue order and move to Q24.3; If yes move to Q24.3	Comply with clause 5.11.3 of the CSA B52 code and ensure that valves, piping systems and equipment safety devices are appropriately identified.	N
24.3	Are compliant instructions for refrigeration systems exceeding 125KW posted in a conspicuous location?	Refrigeration	If no, issue order and move to Q24.4; If yes move to Q24.4	Comply with section 5.11.5 of the CSA B52 code and ensure that instructions for refrigeration systems exceeding 125KW are posted in a conspicuous location and that they comply with this clause.	N
24.4	Does the plant have a process to address the effects of a refrigerant leak into the secondary coolant system?	Refrigeration	If no, issue order and move to Q24.5; If yes move to Q24.5	Comply with section 5.13 of CSA B52 and address how the system can safely withstand the effects of a refrigerant leak.	N
24.5	Are the machinery room doors compliant with section 6.2.2?	Refrigeration	If no, issue order and move to Q24.6; If yes move to Q24.6	Comply with section 6.2.2 of the CSA B52 code and ensure the machinery room doors of the refrigeration plant comply with the requirements of this section.	N

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24.6	Is there an approved refrigeration gas detector and ventilation system installed?	Refrigeration	If no, issue order and move to Q24.7; If yes move to Q24.7	Comply with section 6.2.3 of CSA B52 and ensure that an approved refrigeration gas detector and ventilation system shall be installed.	Y
24.7	Does the machinery room comply with the explosion protection requirements?	Refrigeration	If no, issue order and move to Q24.8; If yes move to Q24.8	Comply with section 6.2.4 of the CSA B52 code and ensure the explosion protection for the refrigeration plant comply with the requirements of this section.	N
24.8	Does the machinery room comply with ventilation requirements?	Refrigeration	If no, issue order and move to Q24.9; If yes move to Q24.9	Comply with section 6.2.5 of the CSA B52 code and ensure that the ventilation requirements for the refrigeration plant comply with this section.	N
24.9	Does the machinery room comply with section 6.3 for flammable refrigerants (2L,2&3)?	Refrigeration	If no, issue order and move to Q24.10; If yes move to Q24.10	Comply with section 6.3 of the CSA B52 code and ensure the machinery room complied with this section.	N
24.10	Is the inside plant shutdown switch installed?	Refrigeration	if no issue order and move to Q24.11, if yes move to Q24.11	Comply with section 6.3.1.1 (h) of CSA B52 and ensure an inside plant shutdown switch is located immediately outside the machinery room.	N
24.11	Is the external emergency discharge valve installed?	Refrigeration	If no, issue order and move to Q24.12; If yes move to Q24.12	Comply with section 6.10 of CSA B52 and ensure that an external emergency discharge valve is installed.	N
24.12	Is an emergency external plant shutdown system installed?	Refrigeration	If no, issue order and move to Q24.13, if yes move to 24.13	Comply with section 45(4) of O. Reg 219/01 and ensure an emergency external plant shutdown system is installed.	N
24.13	Is the emergency external plant shutdown system tested and tagged at least once per year?	Refrigeration	If no, issue order and move to Q24.14, if yes move to 24.14	Comply with section 45(4) of O. Reg 219/01 and ensure an emergency external plant shutdown system tested and tagged, in accordance with the manufacturer's instructions or at least once per year.	Y
24.14	Does the discharge capacity of the fusible plugs or other pressure relief devices meet the minimum requirement?	Refrigeration	If no, issue order and move to Q24.15, if yes move to 24.15	Comply with section 7.3.4.1 of CSA B52 and ensure the minimum discharge capacity of the fusible plug or other pressure-relief device for each vessel shall meet the minimum requirement.	N
24.15	Are the refrigerant relief valves required to be vented to the atmosphere?	Refrigeration	If no move to Q24.17; If yes move to Q19.24.16		

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24.16	Are the refrigerant relief valves vented to the atmosphere?	Refrigeration	If no, issue order and move to Q24.17; If yes move to Q24.17	Comply with section 7.3.6.1.1 of CSA B52 and ensure refrigerant relief valves are vented to the atmosphere.	N
24.17	Do the refrigerant relief valves vent to the atmosphere or the low side of the system by an approved relief valve?	Refrigeration	If no, issue order and move to Q24.18; If yes move to Q24.18	Comply with clause 7.3.6.2 of the CSA B52 code and ensure that the relief valves on the refrigeration equipment vent to atmosphere or be replaced by an approved relief valve conforming to this clause.	N
24.18	Is there a comprehensive maintenance program in place for the plant?	Refrigeration	If no, issue order and move to Q24.19; If yes move to Q24.19	Comply with section 8.4 of the CSA B52 code and ensure a comprehensive maintenance program is in place for the refrigeration plant.	N
24.19	Is the refrigerant gas detector, ventilation system and alarm tested and tagged at least once per year?	Refrigeration	If no, issue order and move to Q24.20; If yes move to Q24.20	Comply with section 8.4.1 of CSA B52 and ensure the refrigerant gas detector, ventilation system and alarm shall be tested and tagged, in accordance with the manufacturer's instructions or at least once per year.	Y
24.20	Is the inside plant shutdown system is tested, tagged and logged at least once per year?	Refrigeration	If no, issue order and move to Q24.21; If yes move to Q24.21	Comply with section 8.4.2(d) of CSA B52 and ensure that the inside plant shutdown switch is tested, tagged, and logged at least once per year.	N
24.21	Are all refrigeration systems kept clean and readily accessible?	Refrigeration	If no, issue order and move to Q25; If yes move to Q25	Comply with clause 8.4.4(a) of CSA B52 and ensure that all refrigeration systems are kept clean and readily accessible.	N
25	Does the plant have registered boilers?	Boilers	If no, move to end, If yes move to Q25.1		
25.1	Does the plant have dual control boilers?	Boilers	If no, move to 25.3, if yes, move to 25.2		
25.2	Are the dual control boilers operated in accordance with section 43?	Boilers	If no, issue order and move to 25.3, if yes move to 25.3	Comply with section 43 of O. Reg 219/01 and ensure that dual control boilers are operated in accordance with this section.	N
25.3	Is there a water treatment program being administered properly?	Boilers	If no, issue order and move to 25.4, if yes move to 25.4	Comply with section 41 of O. Reg 219/01 and ensure that a registered boiler shall be provided with water conditioning services that meet the analysis and treatment recommendations of the boiler's manufacturer and that are provided by the plant operating staff or contractor based on a scheduled procedure that is logged.	Y

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#	Checklist Question	Type	Checklist Behavior	Standard Order	CS
25.4	Do the tubular gauge glass meet the requirement of section 40?	Boilers	If no, issue order and move to 25.5, if yes move to 25.5	Comply with section 40 of O. Reg 219/01 and ensure that the tubular gauge glass are shielded and the tubular gauge glass shut off valve be equipped with stainless steel ball checks.	N
25.5	Is this a guarded plant?	Boilers	If yes, move to 25.6, if no move to 25.10		
25.6	Does the plant have high pressure boilers?	Boilers	If yes, move to 25.7, if no move to 25.9		
25.7	Are the low water limiting devices on high pressure boilers tested, tagged and logged daily?	Boilers	If no, issue order and move to 25.8, if yes move to 25.8	Comply with section 39(9) of O. Reg 219/01 and ensure that the low water limiting device on high pressure boiler(s) are tested, tagged, and logged daily.	N
25.8	Does the plant have low pressure boilers	Boilers	If no, move to Q25.10, if yes move to Q25.9		
25.9	Are the low water limiting devices on low pressure boilers tested, tagged and logged weekly?	Boilers	If no, issue order and move to 25.10, if yes move to 25.10	Comply with section 39(9) of O. Reg 219/01 and ensure that the low water limiting device on low pressure boiler(s) are tested, tagged, and logged weekly.	N
25.10	Are the flame failure systems tested, tagged and logged weekly?	Boilers	If no, issue order and move to end, if yes move to end.	Comply with section 39(9) of O. Reg 219/01 and ensure the flame failure system(s) are tested, tagged, and logged weekly.	N

Next Steps

