



Technical Standards & Safety Authority

How Safe is Your Plant?

The safe Management, Operation and Maintenance of Ontario's Registered Power Plants are the foundation of the *Operating Engineers Regulation* mandate.

The two most essential components of a plant's ability to operate safely are reflected by the knowledge and competence of the operating personnel and the effective functional operation of the safety controls and devices.

The responsibility for a plant's safe operation and compliance with the requirements of the Regulation always starts with people.

In guarded unattended plants the owner/user is responsible for ensuring the plant complies with the Regulation. In guarded attended and full attendance plants, the Chief Operating Engineer/Operator and their related certified staff are an extension of the Regulation and as such, under the law are responsible for it's compliance.

An important additional member of the plant's team safety effort is the TSSA Operating Engineer Inspector.

Beyond the responsibility of enforcing the Regulation, the Inspector is an important resource for the Owner and Chief Engineer/Operator in their efforts to provide a safe and effective plant operation. One of the Inspectors' most important responsibilities is the Periodic Inspections of Registered plants. Clearly, no Owner or Chief Engineer/Operator wants to operate a plant which presents a risk. The Inspectors' efforts are therefore an important extension of your plant's operating team with the goal of providing you with the guidance which will reinforce your effort to reduce risk.

Because one may extend a full career without experiencing an incident or serious plant failure, it is all too easy to assume there are no risks and that modern equipment is fail proof.

A recent report released by the National Board of Boiler and Pressure Vessel Inspectors has revealed some statistics of concern:

- *Inspectors found over 36,718 safety violations at North American power plants in a one year period.*
- *1,663 incidents resulted in 22 injuries and 5 deaths.*

* Please see attached report overview

What You Can Do To Reduce Risk

The actions you take or do not take can either protect or endanger public safety, the safety of employees and your company's investment in the facility. Reducing risk takes knowledge, discipline and teamwork.

1. **Know the Regulation.** Make sure you and other responsible persons have full knowledge of the *Operating Engineers Regulation*. It is readily available at www.tssa.org. Remember that in the event of an incident, you would be expected to answer questions and demonstrate proper knowledge, actions and procedures.
2. **Be Diligent.** If you have never experienced an incident or serious plant failure, it is all too easy to assume that modern equipment is fail proof. We all know it is not. Make sure everyone on your team is committed to following the prescribed procedures, testing and maintenance requirements to ensure the effective function of safety devices and control systems.
3. **Work in Partnership with the TSSA.** The TSSA is a valuable safety partner and resource. We can help you understand your responsibility for compliance, provide on-site consultations and share our wealth of knowledge and experience with the goal of safe and effective plant operation.

An Accident Waiting to Happen? Be Proactive.

Why wait for a mandatory inspection to identify a hazard at your plant? Call the TSSA for an on-site consultation. We can work with your safety team to help you identify and correct potential safety issues and liabilities before they become a problem.

For further information or assistance, please contact your Regional Operating Engineer Inspector, Mr. Leo Van Der Hout at (905) 628-4771.

Sincerely,



John W. B. Coulter, C.E.T. TECH C.E.I.
Chief Officer

Summary of Statistics from the National Board of Boiler and Pressure Vessel Inspectors

The report does not relate to mechanical equipment incidents or include all boiler owners in North America.

Incident Report

Incidents as a result of operator related issues, poor maintenance or failure of safety devices.

Boilers	Accidents	Injuries	Fatalities
Safety Valves	17		
Low Water Condition	592	1	
Limit Controls	44	1	
Operator Related Issues or Poor Maintenance	585	6	2
Burner Failures	60	5	1
Pressure Vessels			
Safety Valves	19	2	
Limit Controls	8		
Operator Related Issues or Poor Maintenance	103	1	
TOTAL	1,428	16	3

Violation Report

Examples of some of the violations found during 430,629 inspections of Boilers and Pressure Vessels which could have become an incident.

Type of Violation

Boiler Controls	12,017
Boiler Components, Piping	13,833
Safety Valves	6,858
Total Violations	32,708

Example Deficiencies Found in Ontario Plants

- Safety Valves not inspected and sealed
- Fail safe devices not inspected or tested
- Procedure manuals not developed or in effect
- Incorrect application and recording of the log
- Chief Engineers/Operators not on days
- Boiler Gauge glass shields not in place
- Equipment repairs not recorded
- High and low water limiting devices not installed or operating on guarded plants
- Fail safe alarms in guarded plants do not sound or reach all areas
- High Pressure limiting device controls not operating on compression plants
- Maintenance procedures not in effect in guarded Unattended plants
- Boiler water conditioning program not satisfactory