

Boiler Violations	Potential Hazards	Recommended Preventative Actions
Leakage: <ul style="list-style-type: none"> - System Piping - Safety Valve - Cast Iron Sections - Boiler Watertubes and Firetubes 	<p>Leaks should never be ignored. If not expeditiously corrected, leaks will cause:</p> <ul style="list-style-type: none"> - Surrounding boiler components and critical safety devices to fail. - Corrode boiler metal and system piping to the point of failure. <p>Make-up water that replenishes the system due to leaks <u>introduces</u>:</p> <ul style="list-style-type: none"> - Dissolved oxygen that corrodes the boiler metal and system piping, resulting in further system leaks and costly damage. - Dissolved minerals that form insulating scale on heated boiler metal, resulting in costly overheat damage. 	<ul style="list-style-type: none"> - Daily - Inspect boiler and boiler room for obvious signs leaks. Repair or replace leaking components as soon as possible. If leaks from boiler are observed, cease its operation until repaired. - Annually - Systematically inspect the heating system for leaks. Repair and replace system piping and component as soon as possible whenever observed.
Remote Emergency Disconnects: <ul style="list-style-type: none"> - Missing - Defective 	<p>Remote emergency disconnects allow for the immediate shutdown of boilers in emergency situations, such as fire, over-pressurization, low water, or overheating. Failure or lack of emergency remote disconnects at every boiler room exit can result in injury or death and severe property damage.</p>	<ul style="list-style-type: none"> - Verify that an easily identifiable emergency shutdown switch is installed immediately outside each boiler room exit, or immediately inside, if tampering is a concern. - Annually - Have all emergency shutdown switches tested by a qualified individual to ensure they promptly shut off fuel to the boiler.
Damaged Fireside Refractory	<p>Boiler refractory is a fireside insulating material that protects boiler metal from the heat of combustion gas. Failure of refractory material will result in hazardous and costly overheating damage to boiler metal (e.g. crack, warping).</p>	<ul style="list-style-type: none"> - Daily - Inspect the boiler's exterior for signs of overheating (e.g. discoloration, warping, blistering). Cease operation if observed. - Annually - Ensure the boiler's fireside is internally inspected by an authorized inspection agency, such as Chubb. - Repair cracked, crumbling, or collapsed refractory material before returning the boiler to service.
Boiler Not Properly Prepared for Internal Inspection	<p>Properly preparing boilers for internal inspection is crucial to ensure the boiler's safe and reliable operating condition.</p>	<ul style="list-style-type: none"> - Contact your Chubb boiler inspector prior to the internal inspection to discuss boiler preparation requirements.
Safety Relief Valves: <ul style="list-style-type: none"> - Defective - Improperly Sized 	<p>Safety relief valves (SRV) are the last line on defense against a catastrophic boiler explosion due to over-pressurization. SRVs open to relieve excess boiler pressure. Defective or incorrectly sized SRVs can result in injury or death and severe property damage.</p>	<ul style="list-style-type: none"> - Compare safety relief valve (SRV) and boiler nameplates to verify that: <ul style="list-style-type: none"> o All SRV set pressures are equal to or less than the boiler's Maximum Allowable Working Pressure (MAWP). o Aggregate relieving capacity of all SRVs are equal to or greater the boiler's minimum required relief valve capacity. - Daily: Inspect SRVs and ends of discharge pipes for signs of leaks and corrosion. - Monthly: Have the SRVs try-lever tested (manually opened) by a qualified individual to verify the valve can fully open and reseal. - If defective, improperly sized, leaking, or corroded, cease operations and replace SRV before returning the boiler to operation.
Low Water Cut-off: <ul style="list-style-type: none"> - No Manual Reset, - Sediment Build-up - Improper Installation - Defective 	<p>Low Water Cut-offs (LWCO) are devices that protect boilers from overheat damage due to low water conditions. Absence, improper installation, or failure of LWCOs can result in costly boiler damage as well as catastrophic boiler explosions resulting in injury or death and severe property damage.</p>	<ul style="list-style-type: none"> - Verify that LWCOs are installed above the lowest safe water level marked by the boiler manufacturer and that secondary LWCOs are equipped with a manual reset. - Weekly: Have sediment purged from float-type LWCOs and all LWCOs tested by a qualified individual to ensure they will promptly shut off fuel to boilers during a low water event. Annually: Have a qualified individual overhaul, clean, and inspect all LWCOs as well as water column piping. - If defective or incorrectly installed, cease operation, and repair or replace LWCO before returning boiler to service.
Defective Flue (Exhaust Piping)	<p>Defective or corroded exhaust piping can release dangerous gases into the boiler and building, such as carbon monoxide, potentially resulting in injury or death.</p>	<ul style="list-style-type: none"> - Monthly: Inspect flue/exhaust for signs of leakage (soot trails), openings, and corrosion. Repair any flue defects before returning boiler to service.

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