

## WHY THE WATER LEVEL IN GAUGE GLASS KEEPS OSCILLATING?

By K.K.PARTHIBAN, Boiler Consultant

Venus Energy Audit System

Email ID:parthi2006@gmail.com / venus.energy@gmail.com

---

A customer was annoyed about the unsteady water level in their boiler. The boiler was shut for a long time for pressure part repair work. After the restart of the boiler, they found that the water level had begun to oscillate. The level fluctuation in the local water level gauge was to an extent of 50 mm. The level fluctuation was rapid.

The reason for fluctuation was diagnosed to be the rust formed inside the boiler during the shut down period. A boiler is cleaned up by alkali boil out during the pre-commissioning stage. During this process, the loose scale, oil and rust are boiled out. If this was not done, there would be heavy foaming in the boiler due of presence of oil and the suspended impurities. The same phenomena could occur when the boiler had been on a long open outage. The rust formed in the boiler would be enough to increase the suspended matter. As the deaerator (in case of dedicated deaerator) gets rusted during outage, it also adds up to water contamination with rust.

The remedy would be to give blow down after some initial firing and pressurization. The blow down must be done from all bottom points. At the time blow down, the fire must be put off. We should allow the water to become stand still (without circulation), so that the suspended matter would come down to lower points. Water treatment chemical supplier could be consulted for dosing flocculent chemical on line to remove the suspended solids.

