BOILER PREPARATION GUIDANCE FOR FACTORY:

INTERNAL INSPECTION
AND
HYDROSTATIC PRESSURE TEST INSPSCTION

RMG SUSTAINABILITY COUNCIL

Version 2.0
March 2023

Boiler Preparation Guidance for Factory:

Internal Inspection
&
Hydrostatic Pressure Test Inspection

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STEP 1

Start the shutdown procedure of boiler sufficient time before the inspection (6 to 24 hours before depending on the boiler size).

Gradually reduce the boiler load. At the low firing position, perform boiler blowdown, gauge glass blowdown, and steam header blowdowns.

After shutdown, isolate the boiler from the fuel source, ignition system, and other steam lines. Use lockout and tag out or other applicable isolation procedures.

STEP 2

Cool down the boiler as per the manufacturer's guidelines. If there is none, then follow the below-mentioned procedure:

I. Allow the pressure to reduce naturally to prevent damage from thermal shock.
II. When the pressure reaches 25 psi (1.8 kg/cm^2), open all boiler vents partially to prevent vacuum formation.

Cool the boiler sufficiently before opening all furnace doors, manholes, and handholes. It is recommended that the temperature should be below 90 °C.

STEP 3

In the meantime, make the maker's stamp on the pressure vessel **visible**.

STEP 4

After cooling and opening all manholes, mudholes, and handholes, the vessel should be cleaned by flushing with treated water to free it from dirt, **loose scale**, debris, and other foreign material.

STEP 5

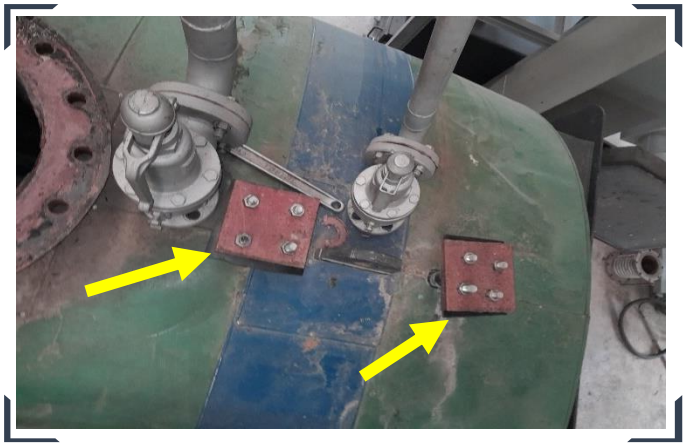
Dismantle the safety valves. This is a must to conduct the Hydro test of the safety valves and the boiler separately.

STEP 6

Prepare blind flange/plug for blinding the points of safety valves.

A preliminary pressure test below the allowable working pressure of the boiler to check the tightness of the joints may be done before the inspection.

N.B. It may need to dismantle the steam outlet lines from the boiler and blind them to avoid leakage through valves and pipes.

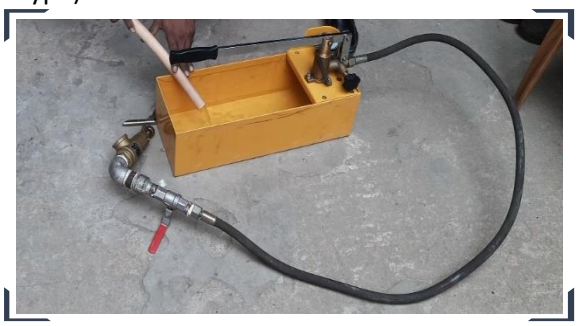


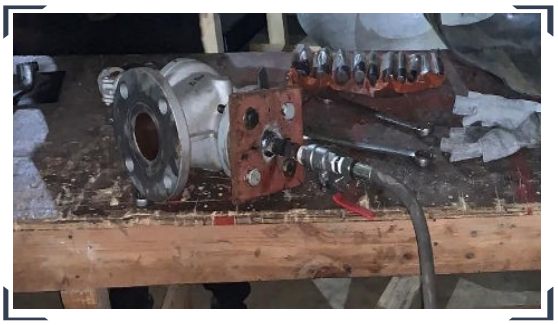
STEP 7

The inside temperature of the boiler must be below 35 ^{o}C at the end of the cooling procedure so that an RSC Boiler Safety Engineer can enter the boiler for Internal inspection. If the boiler is small or entry is not possible, the internal inspection will be done by utilizing inspection equipment as appropriate.

STEP 8

Prepare fittings for safety valves for conducting pressure tests of safety valves (1/2” NPT male type).





STEP 9

Prepare fittings (1/2” NPT male type) for attaching the pressure test pump to the boiler.

STEP 10

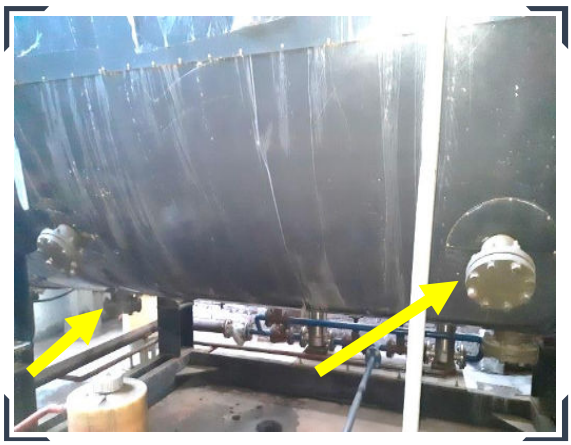
Prepare fittings (1/2” NPT female type) for mounting the calibrated pressure gauge on the boiler.

STEP 11

All weld joints, mechanical joints, screwed or flange, etc., should be exposed for examination during the hydro test

STEP 12

Ensure the required gaskets are available (for hand hole/ mud hole/manhole). This is a must to conduct the hydro test.



Disclaimer: *The procedure explained in this document is for information only. The factory is responsible for preparing a boiler for Internal Inspection and Hydrostatic pressure test (Hydro test) Inspection following standard industry procedures as well as the manufacturer's guidelines for cooling off a boiler.*