

# Inspection Report

**Sub: Mechanical healthiness of Boiler IV (21-F-04)**

**Background:** The boiler-4 was commissioned in the year 1984 with latest water wall design of welded tube wall construction. Boiler was imported from Mitsubishi, Japan as a package boiler and found to have high quality and workmanship. Over a period of service, thickness reduction was observed on target wall tubes, baffle tubes, front wall tubes and super heater section tubes. In the year 2008 fire was noticed in the air inlet duct due to accumulation of fuel oil.

**Manufacturer :** M/s Mitsubishi Heavy Industries- Japan. **Capacity:** 85 Tonnes  
**Pressure:** 50 Kg/cm<sup>2</sup>

The present state of the boiler is tabulated as below:

Sl.no	Parameter	Observation / Status	Remark / Recommendations
1	Commissioned on	1984	
2	Design	Welded tube wall construction	
3	Steam Drum	No repairs done till now.	
4	Mud Drum	No repairs done till now.	
5	Retubing Status	Retubing not carried out so far.	
6	Tube Condition / Plugging	Tube Type	No. of plugs
		Baffle tube	2 out of 61
		Front wall tube	2 out of 56
		Main bank tube	17 out of 668
		Target wall tube	8 out of 32
		Rear wall tubes	No plugs
		Other tubes	No plugs
		Superheater coil Superheater coil screen tubes	No Plugs
7	Refractory	Refractory damages observed in floor area and burner mouth area	
8	Boiler Casing	Condition satisfactory	

9	APH	New APH installed in September 2004	
10	APH inlet duct (Fresh Air)	Patch work observed	
11	Steam Coil Air Preheater (SCAPH)	Low thickness observed	
12	APH Duct bellow joints	Minor damages observed	
13	Flue gas duct	Patch work observed	
14	Burner / Tips / Air registrars / swirlers	Found carburised due to fire	
15	Combustion chamber	Refractory damages observed due to fire	
16	Air plenum chamber / Air inlet duct (near burner)	Found damaged due to fire	
17	Hot air Duct and bellows	External patches and internal bulges observed	
18	Stack	Refractory damage observed	
19	APH bypass duct	Patch work observed	