

# Steam Boiler Maintenance Procedure

[Company]  
[Company Address]  
[Company E-mail]  
[Company Phone]

<b>Doc Ref #</b>	XYZ/IMS/HSE/P/00
<b>Issue Date</b>	DD-MM-YYYY
<b>Rev #:</b>	00
<b>Pages</b>	7

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**Revision Summary**

S/#	Date	Rev	Revision Description	Revised By & Title
1				
2				
3				
4				
5				

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Project Credentials					
Project Name					
Project Ref #					
Site Name					
Location					
Maintenance Type	Monthly		Bi-Annually		Annually

Client Credentials			
Client Name			
Address			
Contact #			
Concerned Person		Designation	

Contractor Details			
Contractor Name			
Contractor Ref #			
Address			
Contact #			
Concerned Person		Designation	

Other Details	
Onsite First Aider	
First Aid Kits Location	
Fire Extinguishers	
Site Supervisor Name	
Safety Officer	

Emergency Contact Details	
Company CEO/MD	
Site Supervisor	
Foreman	
Hospital Contact #	

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<b>Rescue Service #</b>	
<b>Police Station #</b>	

## 1. Purpose

The purpose of the document titled as **Steam Boiler Maintenance Procedure** is to provide guidelines on maintaining the steam boiler on monthly, bi-annually, and annually within the safe work practice as per the legal requirements.

## 2. Scope

The scope of the document **Steam Boiler Maintenance Procedure** is applicable to everyone involved in the work activity, including contractors and sub-contractors, as well as the Steam Boiler [ID Number] installed on [Client Name/ Location].

## 3. Roles and Responsibilities

### 4.1. Site Supervisor & Foreman

- Ensure the worksite is free of hazards.
- Ensure the workers are trained and toolbox talk is provided.
- Ensure the workers are working as per method statement.
- Ensure the material being used is as per agreed quality and quantity.
- Ensure the all incidents are investigated, provide assistance investigation & maintain record.

## 6. Preparatory Activities

- The contactor will visit the client's site for survey with the technicians.
- Contractor will get the approval from the client for work execution.
- Work activities are subject to the relevant permits, e.g., work at height, electrical work etc.
- Equipment will be inspected thoroughly.

## 7. Boiler Maintenance Procedure

A safe system of work is developed with the help of this document to ensure the boiler maintenance work is done as per the required standards, and adherence of this procedure all the time is mandatory.

Any deviation from the documented safe system of work for boiler maintenance is subject to authorization and approval from top management of the client.

When maintenance work is required, following actions must be made to ensure safe work is done;

- Submit maintenance plan and acquire authorization from client for boiler maintenance.
- Shu down the boiler at least 3 days before the maintenance activity.
- Isolate and lock away the power source and place safety signs.
- Staff to arrive at the worksite with all correct instruments and PPEs, follow safety precautions strictly.
- Work permit should be obtained and available onsite.
- Workers will be provided with the necessary information regarding work activity and hazards.
- Switch off the main steam valve, fuel, and water valve.
- Inspect the boiler for rust and containment, if there is any damage, mark it and record.
- Inspect the interior for leakage, of fuel, water, steam, and if anything is detected, repair it before servicing the boiler.

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- Safety valve, Pressure Gauge, safety inter-locks, calibration is mandatory and should be done by the competent and experienced person.
- Inspect the electrical and control panel for any loose connection, rusted wiring, damaged control so that it can be repaired immediately.
- Inspect the burner, flame detector, seals, fuel injecting nozzles, and ensure they are not blocked and functional properly.
- Ensure the smoke tubes are clear, not damaged neither rusted.
- Water side should be in good condition, if not then clean it and repair.
- No damage or cracks are visible or detected on any piece of equipment.
- Hydrostatic test on all flanges using blanking plates.
- Ensure all valves and connections are made properly, and all lids are closed accurately.
- Remove gauges for calibration and reinstall after procedure is done.
- Ensure all damaged or out of order equipment is maintained or replaced with new one.
- Open the fuel, steam, and water valve and check for internal and external leakages.
- When everything is satisfactory, re-install the power supply cord and start the boiler.
- Use steam pressure gauge to raise and control the steam pressure and maintain between 9-10 bar.
- Check safety inter-locks for correct operation.
- Remove Ultra-violet detector to ensure the boiler lock out when out of flame.
- Analyze the gases from the smoke tubes for O<sub>2</sub>, CO<sub>2</sub>, and CO.

### 7.1. 3rd Party Inspection & Test

- Perform the test in the presence of the 3<sup>rd</sup> party inspector and follow his guidelines.
- Fill the water in the boiler according to 3<sup>rd</sup> party inspector requirements and raise pressure accordingly.
- Maintain the pressure inside the boiler as per the 3<sup>rd</sup> party inspector requirements.
- If the hydrostatic test is satisfactory, release the water pressure.
- Remove all blanking plates after hydrostatic test.

## 8. Maintenance Process Termination & Record

- When maintenance is done, and boiler is functional properly, prepare the service report, replaced equipment and gadgets list, get signations of the 3<sup>rd</sup> party inspector and client.
- Handover the copy to the client, and one copy to the 3<sup>rd</sup> party inspector.

## 9. Manpower

S/#	Manpower	Qty.
1	Boiler Technician	
2	Site supervisor	
3	Foreman	
4	Workers	
5	Helpers	
<b>Total</b>		

## 10. Work Permit System (WPS)

S/#	Permit Detail	Permit Duration	Issued By	Status
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		Issue Date	End Date		
1	Permit 1				
2	Permit 2				
3	Permit 3				

## 11. Tools & Equipment

S.#	Equipment & Tools	Qty.
<b>Equipment</b>		
1	Mechanical Tools	
2	Wrench	
3	Screw Driver	
4	Side Cutter	
5	Gas Analyzer	
6	Cleaning Equipment	

## 12. PPE Requirements

S/#	PPEs	Qty.
1	Masks/ Respirators Multi Layered	
2	Gloves	
3	Helmets	
4	Coveralls	
5	Safety shoes	
6	Goggles/ Face Shields	
7	Ear Muffs/ Ear Plugs	

## 13. Safety Guidelines

Following safety actions must be taken during the work execution for the safety and security of the everyone;

- Work activities are subject to permit to work system.
- Work will be done after isolating and locking the system.
- Emergency response plan should be implemented.
- Certified and experienced workforce should be hired for job.
- All equipment should be calibrated, tested, and relevant.
- Barricade the work area with physical barriers, and safety signs, should be posted.
- Workers should be provided with the PPEs, and safe tools for work execution.
- Emergency equipment should be available in ready state all the time, e.g., fire extinguisher, first aid.

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## 14. Relevant Documentation

1. Boiler Inspection Checklist
2. Site Inspection Checklist
3. Boiler Maintenance Plan