BOILER SAFETY REPORT

Zaheen Knitwears Limited

Factory ID: 11497

Address: Keodala, Madanpur, Bandar, Narayangonj

GPS Coordinates: 23.688152, 90.549496

Factory List	:	Zaheen Knitwears Limited (11497) Zaheen Knitwears Limited (Shed - 3, 4, 5, 10, 11, 12, 13) & (Building - Security, ETP and Fire Pump) (24449)
Number of Boilers	:	4
Boiler Registration Numbers	:	BB 5247, BB 13502, BB 14718, BB 15062

RSC RMG SUSTAINABILITY COUNCIL

EXECUTIVE SUMMARY

A comprehensive boiler safety inspection of the factory – **Zaheen Knitwears Limited (11497)** was conducted by the RMG Sustainability Council, covering 4 boilers bearing the registration numbers – BB 5247, BB 14718, BB 13502 and BB 15062. The inspection aimed for the safety checks of the boiler and provide recommendations for safe operation and maintenance.

The inspection process was divided into three distinct parts. Firstly, an external visual inspection was carried out to evaluate the overall condition of the boiler and provide guidance for the upcoming full-fledged boiler safety inspection. Next, an internal inspection and hydrostatic pressure test (commonly referred to as a hydrotest) inspection was conducted to assess the safety and structural integrity of the boiler. Sufficient time was allocated to allow the factory to prepare for the final inspection stage, which involved a functional test inspection. This stage required the boiler to be operational to enable the inspection team to verify the functionality of different safety circuits.

From the inspection observations -

BB 14718, BB 13502 and BB 15062 are in operable condition, but a few issues - outlined in this report, are to be addressed in a timely manner.

Boiler Registration Number	External visual inspection	Internal & Hydrotest inspection		Functional test inspection	
	Date	Date	Remarks	Date	Remarks
BB 5247	31-May-22	7-Jan-25	On 7-Jan-25, the hydro test was not satisfactory due to pressure part leakage. The office of the Chief Inspector of Boilers approved the permanent shutdown of this boiler as of 20-Aug-25.		
		19-Feb-26			
BB 14718	7-Jan-25	9-Mar-25	Satisfactory	18-Jun-25	Steam Pressure Limiter LLWL interlock missing
BB 13502	31-May-22	25-May-25	On 25-May-25, the Internal & hydrotest was not completed due to welding in multiples tubes without necessary documents. On 4-Sep-25, the hydrotest was not satisfactory due to pressure part leakage.	7-Oct-25	
		4-Sep-25			

		17-Sep-25	On 17-Sep-25, again pressure part leakage was observed. However, after the pressure part repair another hydrotest was attempted on same day (17-Sep-25) and the inspection was satisfactory.		
BB 15062	19-Feb-26	19-Feb-26	Satisfactory	29-Mar-26	

LIMITATIONS

The information in this boiler safety inspection report was obtained during a factory visit and discussion with local factory management. Services performed by the inspectors are conducted in a manner consistent with the level of care and skill generally exercised by members of the engineering and auditing profession. However, an effort has been made to discover all meaningful areas within the stipulated time.

In evaluating the subject site, the inspector relies on good faith in the information provided by factory management or employees. The inspector assumes that the information provided is factual, accurate and accepts no responsibility for any deficiency, misstatement or inaccuracies contained in this report as a result of omission or misrepresentation of any person interviewed or contacted.

The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations, as stated in this report, will eliminate all risks or exposures not referred to in this report. Compliance with the findings and recommendations stated in this report does not relieve the factory from the obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.

In case any critical safety concerns are found that require the RSC to recommend an immediate boiler shutdown, for applicable cases, the RSC will inform the Chief Inspector of Boilers (CIoB) office and collaborate with them on all subsequent steps to remediate the issue(s).

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1. EXTERNAL VISUAL INSPECTION

Inspection Date	Boiler Registration Number	Author(s)
31-May-22	BB 5247, BB 13502	Faisal Bin Faruk
7-Jan-25	BB 14718	Md Tanvin Maksud Md. Abu Sayed
19-Feb-26	BB 15062	Kazi Sefat-E-Nur Abdullah

Reviewed by : Md. Minhajul Islam

Approved by : Md. Mehedi Hasan

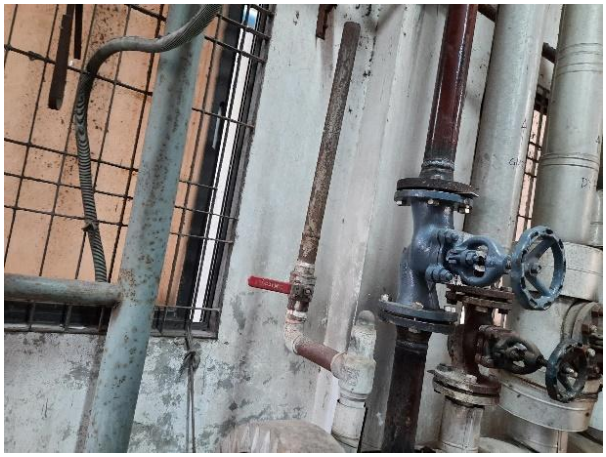
FINDINGS AND RECOMMENDATIONS

The table below summarizes the identified boiler safety hazards during this inspection. Recommendations have been provided for each finding.

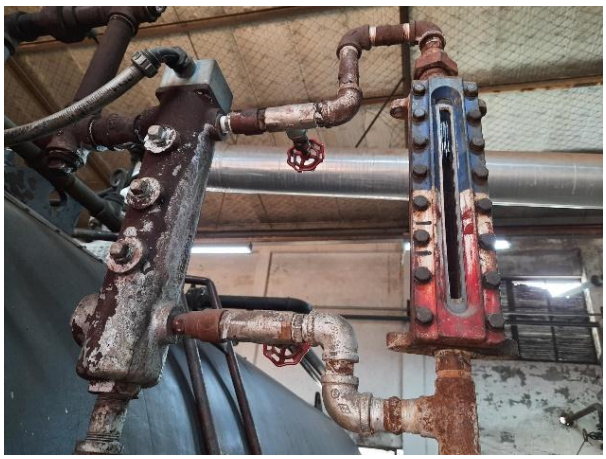
FINDING NO:	B-1
CATEGORY:	THERMAL INSULATION
BOILER REGISTRATION NO:	BB 5247
FINDING: Boiler steam header and steam pipeline were found with improper insulation	
RECOMMENDATION: Proper insulation to exposed parts of the boiler body and steam distribution pipelines should be provided.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-2
CATEGORY:	BOILER ROOM
BOILER REGISTRATION NO:	BB 5247
FINDING: Inadequate ventilation systems were observed in the boiler room.	
RECOMMENDATION: An adequate ventilation system shall be ensured as per BNBC 2020 for habitability, combustion air, housekeeping, personal safety, and general safety considerations.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-3
CATEGORY:	SAFETY VALVE
BOILER REGISTRATION NO:	BB 5247
FINDING: Boiler Safety Valve outlet line was not directed outside of the boiler room.	
RECOMMENDATION: Boiler Safety Valve outlet line should be directed outside of the boiler room with proper support and drainage system.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH



FINDING NO:	B-4
CATEGORY:	MONITORING AND CONTROL SYSTEM
BOILER REGISTRATION NO:	BB 5247
FINDING: Low Low Water Level (LLWL) was not marked properly on water level gauge glass system.	
RECOMMENDATION: The Low Low Water Level (LLWL) should be marked beside the gauge glass on a separate arrangement so that the water level can be visualized and identified clearly.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS



FINDING NO:	B-5	
CATEGORY:	SUPPORT AND ACCESS	
BOILER REGISTRATION NO:	BB 5247	
FINDING: A boiler with a height of 8 feet or more was observed with an inadequate platform, ladder, and handrail, making it inaccessible.		
RECOMMENDATION: An operation, maintenance, and inspection platform with a minimum width of 2.5 feet, a railing with a minimum height of 3.5 feet, and a ladder - that does not pose fall hazard - should be provided.		
PRIORITY:	P3	
REMEDIATION TIME FRAME:	2 MONTHS	

FINDING NO:	B-6	
CATEGORY:	DOCUMENTATION	
BOILER REGISTRATION NO:	BB 5247	
FINDING: Necessary technical documents were not available to verify boiler design and operation parameters.		
RECOMMENDATION: Documentation including manufacturing drawings and calculations, Piping and Instrumentation diagram, electrical wiring diagram, commissioning documents, data sheets of mountings, accessories and feed water pump, boiler operational and maintenance logbook, operation and maintenance manual, water treatment design and calculation, flue gas analysis report and water treatment report shall be available to verify the present condition of the boiler.		
PRIORITY:	P3	
REMEDIATION TIME FRAME:	2 MONTHS	

FINDING NO:	B-7
CATEGORY:	DOCUMENTATION
BOILER REGISTRATION NO:	BB 5247
FINDING: Boiler's initial registration certificate was not available on-site during the inspection.	
RECOMMENDATION: Boiler registration certificate from the government authority which was provided after the installation shall be available on-site during the inspection.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-8
CATEGORY:	ELECTRICAL WIRING SYSTEM
BOILER REGISTRATION NO:	BB 5247
FINDING: No emergency stop push switch was available near the entrance outside of the boiler room and on the boiler control panel.	
RECOMMENDATION: Emergency stop push switches must be installed on the boiler control panel and outside the boiler room near every entrance door.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-9	
CATEGORY:	THERMAL INSULATION	
BOILER REGISTRATION NO:	BB 13502	
FINDING: Boiler steam header and steam pipeline were found with improper insulation		
RECOMMENDATION: Proper insulation to exposed parts of the boiler body and steam distribution pipelines should be provided.		
PRIORITY:	P2	
REMEDIATION TIME FRAME:	1 MONTH	

FINDING NO:	B-10	
CATEGORY:	SUPPORT AND ACCESS	
BOILER REGISTRATION NO:	BB 13502	
FINDING: A boiler with a height of 8 feet or more was observed with an inadequate platform, ladder, and handrail, making it inaccessible.		
RECOMMENDATION: An operation, maintenance, and inspection platform with a minimum width of 2.5 feet, a railing with a minimum height of 3.5 feet, and a ladder - that does not pose fall hazard - should be provided.		
PRIORITY:	P3	
REMEDIATION TIME FRAME:	2 MONTHS	

FINDING NO:	B-11	
CATEGORY:	ELECTRICAL WIRING SYSTEM	
BOILER REGISTRATION NO:	BB 13502	
FINDING: No emergency stop push switch was available near the entrance outside of the boiler room and on the boiler control panel.		
RECOMMENDATION: Emergency stop push switches must be installed on the boiler control panel and outside the boiler room near every entrance door.		
PRIORITY:	P3	
REMEDIATION TIME FRAME:	2 MONTHS	

FINDING NO:	B-12	
CATEGORY:	DOCUMENTATION	
BOILER REGISTRATION NO:	BB 13502	
FINDING: Boiler's initial registration certificate was not available on-site during the inspection.		
RECOMMENDATION: Boiler registration certificate from the government authority which was provided after the installation shall be available on-site during the inspection.		
PRIORITY:	P3	
REMEDIATION TIME FRAME:	2 MONTHS	

FINDING NO:	B-13
CATEGORY:	DOCUMENTATION
BOILER REGISTRATION NO:	BB 13502
FINDING: Necessary technical documents were not available to verify boiler design and operation parameters.	
RECOMMENDATION: Documentation including manufacturing drawings and calculations, Piping and Instrumentation diagram, electrical wiring diagram, commissioning documents, data sheets of mountings, accessories and feed water pump, boiler operational and maintenance logbook, operation and maintenance manual, water treatment design and calculation, flue gas analysis report and water treatment report shall be available to verify the present condition of the boiler.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-14
CATEGORY:	DOCUMENTATION
BOILER REGISTRATION NO:	BB 14718
FINDING: Necessary technical documents (electrical wiring diagram, commissioning documents, data sheets of mountings) were not available to verify boiler design and operation parameters.	
RECOMMENDATION: Documentation including manufacturing drawings and calculations, Piping and Instrumentation diagram, electrical wiring diagram, commissioning documents, data sheets of mountings, accessories and feed water pump, boiler operational and maintenance logbook, operation and maintenance manual, water treatment design and calculation, flue gas analysis report and water treatment report shall be available to verify the present condition of the boiler.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

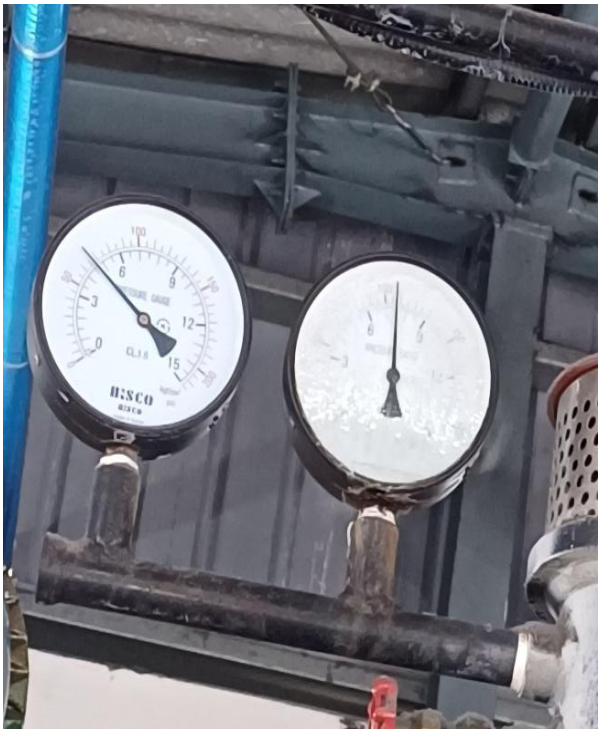
FINDING NO:	B-15
CATEGORY:	ELECTRICAL WIRING SYSTEM
BOILER REGISTRATION NO:	BB 14718
FINDING: No emergency stop push switch was available near the entrance outside of the boiler room and on the boiler control panel.	
RECOMMENDATION: Emergency stop push switches must be installed on the boiler control panel and outside the boiler room near every entrance door.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-16
CATEGORY:	MONITORING AND CONTROL SYSTEM
BOILER REGISTRATION NO:	BB 14718
FINDING: Low Low Water Level (LLWL) was not marked properly on water level gauge glass system.	
RECOMMENDATION: The Low Low Water Level (LLWL) should be marked beside the gauge glass on a separate arrangement so that the water level can be visualized and identified clearly.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-17
CATEGORY:	SUPPORT AND ACCESS
BOILER REGISTRATION NO:	BB 14718
FINDING: A boiler with a height of 8 feet or more was observed with an inadequate platform, ladder, and handrail, making it inaccessible.	
RECOMMENDATION: An operation, maintenance, and inspection platform with a minimum width of 2.5 feet, a railing with a minimum height of 3.5 feet, and a ladder - that does not pose fall hazard - should be provided.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-18
CATEGORY:	SAFETY VALVE
BOILER REGISTRATION NO:	BB 14718
FINDING: Boiler Steam Header Safety Valve outlet line was not directed outside of the boiler room.	
RECOMMENDATION: Boiler Safety Valve outlet line should be directed outside of the boiler room with proper support and drainage system.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-19
CATEGORY:	MONITORING AND CONTROL SYSTEM
BOILER REGISTRATION NO:	BB 14718
FINDING: The steam pressure gauge range was insufficient.	
RECOMMENDATION: The boiler pressure gauge range should be at least twice the boiler's maximum allowable working pressure mentioned in the boiler license or in accordance with any recognized international standard.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH



FINDING NO:	B-20
CATEGORY:	STEAM DISTRIBUTION NETWORK
BOILER REGISTRATION NO:	BB 14718
FINDING: Unused steam line connection was not terminated properly.	
RECOMMENDATION: Any unused & unprotective steam line shall be terminated in an appropriate manner that does not create any possibility of burn hazard for the operator(s).	
PRIORITY:	P1
REMEDIATION TIME FRAME:	2 WEEKS

FINDING NO:	B-21
CATEGORY:	THERMAL INSULATION
BOILER REGISTRATION NO:	BB 14718
FINDING: Boiler body was found with improper insulation.	
RECOMMENDATION: Proper insulation to exposed parts of the boiler body and steam distribution pipelines should be provided.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-22
CATEGORY:	LEAKAGE
BOILER REGISTRATION NO:	BB 14718
FINDING: Steam leakage was observed in the boiler pressure gauge connection.	
RECOMMENDATION: The steam leakage shall be repaired to prevent burn hazard.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-23
CATEGORY:	AIR VENT
BOILER REGISTRATION NO:	BB 13502
FINDING: The boiler air vent line was not directed to the outside of the boiler room.	
RECOMMENDATION: The boiler vent line should be directed outside of the boiler room with proper support.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

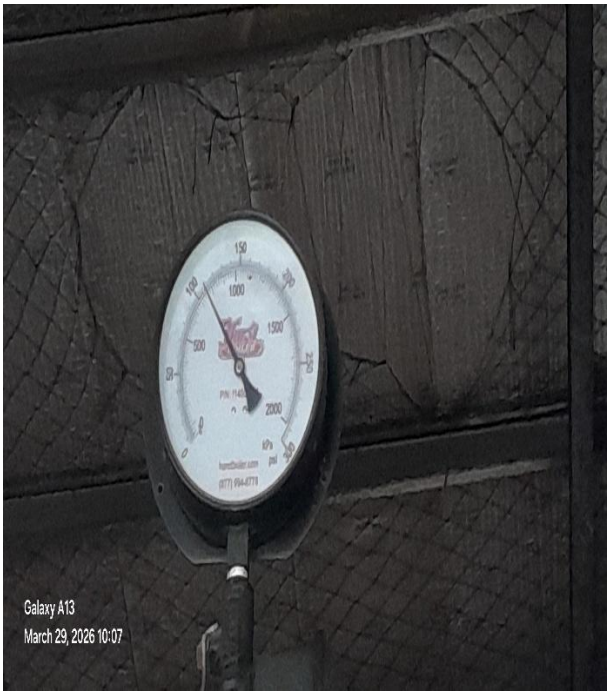
FINDING NO:	B-24
CATEGORY:	SAFETY VALVE
BOILER REGISTRATION NO:	BB 14718
FINDING: Drainage arrangement was not installed or installed in an inadequate manner for one or more safety valves.	
RECOMMENDATION: Drainage arrangement must be installed for all safety valves as per manufacturer published guideline or at the lowest point of outlet line.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-25
CATEGORY:	THERMAL INSULATION
BOILER REGISTRATION NO:	BB 15062
FINDING: Boiler steam header and steam pipeline were found with improper insulation.	
RECOMMENDATION: Proper insulation to exposed parts of the boiler body and steam distribution pipelines should be provided.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-26
CATEGORY:	MONITORING AND CONTROL SYSTEM
BOILER REGISTRATION NO:	BB 15062
FINDING: Low Low Water Level (LLWL) was not marked properly on water level gauge glass system.	
RECOMMENDATION: The Low Low Water Level (LLWL) should be marked beside the gauge glass on a separate arrangement so that the water level can be visualized and identified clearly.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-27
CATEGORY:	DOCUMENTATION
BOILER REGISTRATION NO:	BB 15062
FINDING: Necessary technical documents (electrical wiring diagram, commissioning documents, piping and instrumentation diagram, operation and maintenance manual, data sheets of mountings, accessories and feed water pump) were not available to verify boiler design and operation parameters.	
RECOMMENDATION: Documentation including manufacturing drawings and calculations, Piping and Instrumentation diagram, electrical wiring diagram, commissioning documents, data sheets of mountings, accessories and feed water pump, boiler operational and maintenance log book, operation and maintenance manual, water treatment design and calculation, flue gas analysis report and water treatment report shall be available to verify the present condition of the boiler.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS

FINDING NO:	B-28
CATEGORY:	MONITORING AND CONTROL SYSTEM
BOILER REGISTRATION NO:	BB 15062
FINDING: Installed pressure gauge was inadequate in dial size and pressure rating according to manufacturing standard.	
RECOMMENDATION: An appropriate pressure gauge according to Bangladesh boiler regulation (BBR)/manufacturing standard/any standard recognized by the CIoB. shall be provided.	
PRIORITY:	P3
REMEDIATION TIME FRAME:	2 MONTHS



2. INTERNAL INSPECTION & HYDROSTATIC PRESSURE TEST INSPECTION

Inspection Date	Boiler Registration Number	Author(s)
7-Jan-25	BB 5247	Md Tanvin Maksud Md. Abu Sayed
9-Mar-25	BB 14718	Md. Almas Hossain Polash Nawaze Mahmud
25-May-25	BB 13502	Asif Iqbal Arif Ahamed Mithun
4-Sep-25	BB 13502	Md. Mahfuzul Kabir Syed Rayhan Sajjid
17-Sep-25	BB 13502	Md. Abu Sayed
19-Feb-26	BB 15062	Kazi Sefat-E-Nur Abdullah

Reviewed by : Md. Minhajul Islam

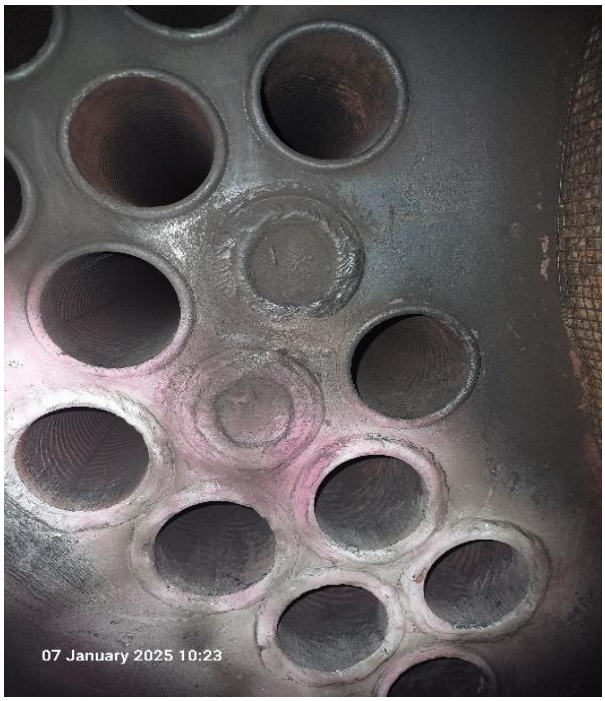
Approved by : Md. Mehedi Hasan

FINDINGS AND RECOMMENDATIONS

The table below summarizes the identified boiler safety hazards during this inspection. Recommendations have been provided for each finding.

FINDING NO:	B-29
CATEGORY:	SCALES AND DEPOSITS
BOILER REGISTRATION NO:	BB 5247
FINDING: Salt and scale formation was observed on the waterside of the boiler shell, tube, end plate and bottom.	
RECOMMENDATION: Cleaning is required. A water treatment station is to be used. Feed and boiler water quality and conditioning should be verified and monitored. The boiler operator should operate the boiler with proper blowdown. A thickness survey must be conducted to ensure pressure parts are within the manufacturer's allowable limit.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-30
CATEGORY:	BOILER PRESSURE PARTS
BOILER REGISTRATION NO:	BB 5247
FINDING: 4 number of fire tubes of the boiler were found blinded, obstructing the flue gas flow.	
RECOMMENDATION: The blinded fire tubes should be replaced with new tubes to reopen the flue gas path as per manufacturer's guidance with the written permission from the Chief Inspector of Boilers.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	6 MONTHS



FINDING NO:	B-31
CATEGORY:	SCALES AND DEPOSITS
BOILER REGISTRATION NO:	BB 13502
FINDING: Salt and medium scale formation was observed on the fire tubes, furnace, and end plate of the boiler.	
RECOMMENDATION: Cleaning is required. A water treatment station is to be used. Feed and boiler water quality and conditioning should be verified and monitored. The boiler operator should operate the boiler with proper blowdown.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-32
CATEGORY:	BOILER PRESSURE PARTS
BOILER REGISTRATION NO:	BB 13502
FINDING: The inside of the boiler was found corroded due to inadequate water treatment.	
RECOMMENDATION: Feed water must be externally or internally treated. The boiler operator should blow down regularly as per the manufacturer's recommendation. Rapid boiling should be avoided. Shell and end plate thicknesses must be within the allowable limit specified by the manufacturer.	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

FINDING NO:	B-33
CATEGORY:	SCALES AND DEPOSITS
BOILER REGISTRATION NO:	BB 15062
FINDING: Salt and medium scale formation were observed on the waterside on furnace, bottom side and end plate.	
RECOMMENDATION: Cleaning is required. A water treatment station is to be used. Feed and boiler water quality and conditioning should be verified and monitored. The boiler operator should operate the boiler with proper blowdown. In the case of hard scales, recommend a thickness survey after chemical cleaning, to verify the thickness of pressure parts (shell, end plate, tube)	
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

3. FUNCTIONAL TEST INSPECTION

Inspection Date	Boiler Registration Number	Author(s)
18-Jun-25	BB 14718	Gobinda Chandra Roy
7-Oct-25	BB 13502	Md. Almas Hossain Polash
29-Mar-26	BB 15062	Md. Abu Sayed

Reviewed by : Md. Minhajul Islam

Approved by : Md. Mehedi Hasan

3.1. FINDINGS AND RECOMMENDATIONS

The table below summarizes the identified boiler safety hazards during this inspection. Recommendations have been provided for each finding.

FINDING NO:	B-34	
CATEGORY:	MONITORING AND CONTROL SYSTEM	
BOILER REGISTRATION NO:	BB 14718	
FINDING: There was no interlock for the Low Low Water (LLWL) level trip of the boiler		
RECOMMENDATION: The Low Low Water (LLW) level tripping mechanism should be functional.		
PRIORITY:	P1	
REMEDIATION TIME FRAME:	1 WEEK	

FINDING NO:	B-35	
CATEGORY:	MONITORING AND CONTROL SYSTEM	
BOILER REGISTRATION NO:	BB 14718	
FINDING: The Steam Pressure Limiter was missing.		
RECOMMENDATION: Steam Pressure Limiter should be installed and kept functional.		
PRIORITY:	P1	
REMEDIATION TIME FRAME:	1 MONTH	

FINDING NO:	B-36	
CATEGORY:	MONITORING AND CONTROL SYSTEM	
BOILER REGISTRATION NO:	BB 13502	
FINDING: There was no interlock for the Low Low Water (LLWL) level trip of the boiler.		
RECOMMENDATION: The Low Low Water (LLW) level tripping mechanism should be functional.		
PRIORITY:	P1	
REMEDIATION TIME FRAME:	1 WEEK	

FINDING NO:	B-37	
CATEGORY:	ELECTRICAL WIRING SYSTEM	
BOILER REGISTRATION NO:	BB 13502	
FINDING: There was no acoustic or optical alarm when the limiter was activated.		
RECOMMENDATION: An acoustic with optical alarm should be installed.		
PRIORITY:	P2	
REMEDIATION TIME FRAME:	1 MONTH	