

# STEAM BOILER ENGINEER GRADE 1

— SBE GRADE 1 TRAINING —



**TRAINER >>>**  
**MOHAMAD HISWANDY BIN ISHAK**

**RM 4,590**  
**Per Pax**

## TOPICS COVERED

1



### LEGISLATION AND STANDARDS

- Boiler Acts and DOSH Requirements
- Codes and Standards (ASME, MS, etc.)
- Responsibilities of Boiler Engineer

2



### BOILER DESIGN

- Boiler Construction and Components
- Heat Transfer Principles
- Safety Devices and Control Systems

3



### BOILER OPERATION

- Start-up and Shutdown Procedures
- Combustion Control and Efficiency
- Water Treatment and Boiler Water Quality

4



### INSPECTION, MAINTENANCE & FAILURE PREVENTION

- Inspection Techniques and Testing
- Preventive Maintenance
- Common Boiler Defects and Corrective Actions

5



### BOILER INTEGRITY, RISK MANAGEMENT & TROUBLESHOOTING

- Machinery Integrity and Reliability
- Risk Assessment and Incident Prevention
- Troubleshooting and Problem Solving

SCAN ME



**LIMITED  
SEATS  
LEFT**

**RESERVE YOUR  
SEAT NOW!**



**LOCATION**

LOT 484 (PLOT 18),  
26 INDUSTRIAL PARK,  
JALAN BATU KAWA,  
93250 KUCHING,  
SARAWAK

**DATE**

**21-24  
SEPTEMBER  
2026**

**No. Ruj : JKPP BP 127/491/41-18**



**OPERATE BOILER  
EFFICIENTLY AND  
CONTACT US AT**



+60 11-6252 3382



<https://bssa.com.my>



[ADMIN@BSSA.COM.MY](mailto:ADMIN@BSSA.COM.MY)



## TRAINING SESSION PLAN

**TITLE: STEAM BOILER ENGINEER GRADE 1**

**TIME: 08:00AM to 17:00PM**

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### Objective:

1. Trainees will gain an understanding of the legislation and standards related to steam boilers, including occupational safety and health regulations, codes of practice, guidelines, and roles and responsibilities of steam engineers.
2. Trainees will gain an understanding of the codes and standards, conceptual design, actual design, components, fittings, and safety devices related to boiler design.
3. Trainees will gain a comprehensive understanding of boiler operation, including fundamental responsibilities, safety precautions, emergency procedures, maintenance practices, steam management, and efficiency considerations.
4. Trainees will gain an understanding of boiler defects, potential root causes, materials, creep and fatigue, corrosion and control, welding and welding mechanical failure, and non-destructive testing and inspection (NDT/NDE).
5. Trainees will gain an understanding of machinery integrity, including the concepts of fit for services and process safety management.

### DAY 1

| LEARNING POINT                                                                                                                                                                                                                                                                                                | TIME                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Registration, Safety Briefing &amp; Breakfast</b><br><br><b>Legislation and Standards for Steam Boilers</b> <ul style="list-style-type: none"><li>• Legislation Overview Terminology</li><li>• Plant Requiring Certificate of Fitness Regulations 2024</li></ul>                                           | 08:00AM – 12:00PM<br>(4 HOURS) |
| <b>LUNCH</b>                                                                                                                                                                                                                                                                                                  | 12:00PM – 13:00PM              |
| <b>Legislation and Standards for Steam Boilers</b> <ul style="list-style-type: none"><li>• Occupational Safety and Health Regulations</li><li>• Codes of Practice and Guidelines</li><li>• Roles and Responsibilities of Steam Engineers</li><li>• Plant Safety, Management, and Maintenance Policy</li></ul> | 13:00PM – 17:00PM<br>(4 HOURS) |

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**TITLE: STEAM BOILER ENGINEER GRADE 1**  
**TIME: 08:00AM to 17:00PM**

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**DAY 2**

| <b>LEARNING POINT</b>                                                                                                                                                                                                                                                                              | <b>TIME</b>                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Safety Briefing &amp; Breakfast</b><br><b>Boiler Design</b> <ul style="list-style-type: none"><li>• Applicable Codes &amp; Standards</li><li>• Steam Plant Conceptual Design</li><li>• Boiler Design</li><li>• Boiler Components</li><li>• Parts, Essentials Fittings, Safety Devices</li></ul> | 08:00AM – 12:00PM<br>(4 HOURS) |
| <b>LUNCH</b>                                                                                                                                                                                                                                                                                       | 12:00PM – 13:00PM              |
| <b>Boiler Operation</b> <ul style="list-style-type: none"><li>• Introduction to Boiler Operation</li><li>• Fundamental Operational Responsibilities</li><li>• Starting Cold Boilers</li><li>• Connecting More Than One Boiler</li><li>• Operating Under Emergency Situations</li></ul>             | 13:00PM – 17:00PM<br>(4 HOURS) |

**DAY 3**

| <b>LEARNING POINT</b>                                                                                                                                                                                                                                                                                                                                                  | <b>TIME</b>                     |
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| <b>Safety Briefing &amp; Breakfast</b><br><b>Boiler Operation</b> <ul style="list-style-type: none"><li>• Idling Procedure and Maintenance</li><li>• Uses of Low-Pressure Steam and Hot Water Boiler</li><li>• Special Types of Boilers for High Pressure and Temperature Steam</li><li>• Steam Management</li><li>• Boiler Efficiency and Burner Efficiency</li></ul> | 08:00 AM – 12:00PM<br>(4 HOURS) |
| <b>LUNCH</b>                                                                                                                                                                                                                                                                                                                                                           | 12:00PM – 13:00PM               |
| <b>Inspection, Maintenance, and Repair of Boilers</b> <ul style="list-style-type: none"><li>• Boiler Defects &amp; Potential Root Causes</li><li>• Materials, Creep, and Fatigue</li><li>• Corrosion and Control</li><li>• Welding and Welding Mechanical Failure</li></ul>                                                                                            | 13:00PM – 17:00PM<br>(4 HOURS)  |

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**TIME: 08:00AM to 17:00PM**

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**DAY 4**

| <b>LEARNING POINT</b>                                                                                                                                                                                                                                               | <b>TIME</b>                     |
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| <b>Safety Briefing &amp; Breakfast</b><br><br><b>Inspection, Maintenance, and Repair of Boilers</b> <ul style="list-style-type: none"> <li>• Non-Destructive Testing and Inspection (NDT/NDE)</li> <li>• Practical Demonstration and Hands-on Activities</li> </ul> | 08:00 AM – 10:00AM<br>(2 HOURS) |
| <b>Machinery Integrity</b> <ul style="list-style-type: none"> <li>• Introduction to Fit for Services</li> <li>• Introduction to Process Safety Management</li> <li>• Case Studies and Examples</li> </ul>                                                           | 10:00 AM – 12:00PM<br>(2 HOURS) |
| <b>LUNCH</b>                                                                                                                                                                                                                                                        | 12:00PM – 13:00PM               |
| <b>Machinery Integrity</b> <ul style="list-style-type: none"> <li>• Fit for Services Assessment</li> <li>• Process Safety Management Implementation</li> <li>• Integration of Fit for Services and Process Safety Management</li> </ul>                             | 13:00PM – 17:00PM<br>(4 HOURS)  |