Licence to Operate a Standard Boiler

Code	Name	Description
MSMBLIC001 - 01PC	Plant Identification Major Components	* This is a prior to course requirement. List and record in your workbook the major components of each of the following systems and record what you believe the components function to be. 1. Feedwater supply system and Condensate Return (if fitted). 2. Fuel supply system. 3. Combustion air supply system. 4. Steam supply system including all pressure relief valves. 5. Chemical dosing system including chemical dosing points. 6. Instrument air system supplying the boiler (if fitted).
MSMBLIC001 - 02PC	Plant Identification Single Line Drawings	* This is a prior to course requirement. Draw in your workbook a single line sketch of each of the following systems. 1. Feedwater supply system and Condensate Return (if fitted). 2. Fuel supply system. 3. Combustion air supply system. 4. Steam supply system showing the location of all pressure relief valves. 5. Chemical dosing system showing chemical dosing points. 6. Instrument air system supplying the boiler (if fitted).
MSMBLIC001 - 03PC	Workplace Health & Safety Legislation	* This is a prior to course requirement. Using a browser to connect to the Internet search for the Workplace Health and Safety Regulations for the jurisdiction in which you reside. For example; https://www.workcover.nsw.gov.au/ and then look for Laws & Legislation and locate the WHS Regulations. You should go to Part 4.5 High Risk Work and read and review it. Then in your own words write a short outline of the requirements for: 1. Training and Assessment to obtain a Licence to Perform High Risk Work. 2. Licence conditions such as duration, renewal, loss of licence, expiring licence, renewal etc. 3. Employer's obligations to High Risk Work. 4. PCBU obligations to High Risk Work.
MSMBLIC001 - 1.1	Plan and Prepare for Work - Follow Standard Operating Procedures	Locate and identify the Boiler Start Up Standard Operating Procedure (SOP) for your plant. Discuss with your Mentor the need for the SOP, why it is to be followed and document in your Log Book Exercise Book these reasons. *If there is not a Boiler Start Up SOP for your Boiler, work with your Mentor to develop an SOP. Document this in your Log Book Exercise Book for discussion with your Trainer so it can be presented to your Manager for Implementation.

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MSMBLIC001 - 1.2	Plan & Prepare for Work - Comply with Work Health & Safety	List in your workbook where you may find the following: Legislation relating to Boilers for your jurisdiction - e.g. NSW WorkCover Web site. Codes of Practice that apply to Boilers. Manufacturers Specifications in Original Equipment Manufacturers (OEM) Manuals. Australian Standards that apply to Boilers generally and those that apply to your Boiler/s. Technical Standards such as National Fire Prevention Association (NFPA) Code. International Standards.
MSMBLIC001 - 1.3	Plan & Prepare for Work - Identify Work Hazards	Identify three (3) possible hazards on your boiler & explain (to your mentor) the methods you would use to eliminate or control those risks based on the Hierarchy of Control. List and record in your workbook the hazards identified and the control measures used, based on the "Hierarchy of Control". Example: Hot Surfaces - Ensure correct insulation in place and barricade area of insulation damaged.
MSMBLIC001 - 1.4	Plan & Prepare for Work - Locate & Review Appropriate Records	List in your workbook the Appropriate Records you should consult when commencing Boiler Operations. Record in your workbook the type of information you would need to know about before commencing Boiler Operations.
MSMBLIC001 - 1.5	Plan & Prepare for Work - Identify the Type of Boiler	Discuss with your Mentor and list in your workbook as much detail as you can about your Boiler/s. For example, Water Tube, 'D' type, dual burner, gas fired, bottom supported, package boiler producing 5000kg/hr steam at 1034kPa.
MSMBLIC001 - 1.6	Plan & Prepare for Work - Identify Appropriate Personal Protective Equipment	Identify the minimum standard of PPE required when operating a boiler and explain to your Mentor the reason for each item of PPE. List the items of PPE and the hazard the PPE protects against. Example: Safety glasses - protect against sparks, dust, etc. Identify PPE required when performing special operations on a boiler and explain to your Mentor the reason for each item of PPE. List the items of PPE and the hazard the PPE protects against. Example: Chemical Decanting and Handling - Safety Facemask and Chemical Resistant Safety Gloves.
MSMBLIC001 - 1.7	Plan & Prepare for Work - Identify Suitable Communication Methods	In your workook, list 3 of the different communications methods and types of equipment used on your site. Example 1: Communication methods - Written language, hand signals, etc. Example 2: Communication equipment - pagers, telephone, etc.

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MSMBLIC001 - 2.1	Start Up Boiler - Apply Risk Prevention & Risk Control Measures	List in your workbook three (3) control measures used in your workplace to control hazards. Examples: Rotating Machinery is fitted with Guards and Signage indicating the area of Risk.
MSMBLIC001 - 2.2	Start Up Boiler - Select Communication Equipment	Prior to commencing a Boiler Start Up discuss with your Mentor the communications equipment to use and test it. Record in your workbook the various communications used and how you tested them.
MSMBLIC001 - 2.3	Start Up Boiler - Select all Necessary Equipment & Inspect for Operational Effectiveness	Discuss with your Mentor and list in your workbook all of the various equipment you may require in preparation to operate your Boiler. Consider this task to include both Safety Equipment and Plant. For example: First Aid Kit, Water Testing Equipment etc.
MSMBLIC001 - 2.4	Start Up Boiler - Check Boiler Visually for Any Damage or Defects - Report & Record	Discuss with your Mentor and list three (3) types of damage or defect you may find around your boiler during visual checks. Explain the reporting process and what what be reported for each defect. Example: maintenance work incomplete, loose or missing machinery guards, thermal lagging missing, fuel leaks etc.
MSMBLIC001 - 2.5	Start Up Boiler - Vent Boiler to Atmosphere	Explain to your Mentor why the boiler is vented to atmosphere prior to start. Also explain other uses of the vent and when and how it is used. List the uses of the Vent Valve in your workbook.
MSMBLIC001 - 2.6	Start Up Boiler - Carry out Pre-Start Up Checks	Explain the reason for, and the use of Pre Start Check Sheets to your Mentor. If you do not have Pre Start Check Sheets develop them with your Mentor. List three pre start checks on your boiler and why they are carried out. Explain or demonstrate the use of the pre start checks for your plant to your Mentor. These checks may include recommissioning tests on boiler safety items such as safety valves, flame detectors, boiler water level tests, chemicals and alarm checks. They may include checks to valve positions, fire fighting gear, PPE, boiler access doors. Sub system checks can include feedwater system, fuel supply, combustion air supply, compressed air, ash disposal, and electrical systems.
MSMBLIC001 - 2.7	Start Up Boiler - Start Up Boiler According to Procedures	Under direct supervision of your Mentor perform a minimum of three (3) Boiler Starts on your Boiler/s. Record these in your Log Book and discuss with your Mentor any issues you have during these operations and write a short report in your workbook for each Boiler Start.

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MSMBLIC001 - 2.8	Start Up Boiler - Identify Maintenance Requirements & any Visual Faults	Discuss with your mentor and list in your workbook three (3) faults that your maintenance staff may have to attend to after starting your Boiler. Specify which maintenance section you would notify and provide an outline of the faults found. Examples: leaking pipe - mechanical section, faulty workplace lighting- electrical section.
MSMBLIC001 - 2.9	Start up Boiler - Confirm, Complete & Log All Maintenance and/or Repairs, Isolations	Explain to your Mentor, and list in your workbook what checks you would make to confirm that the plant is serviceable after maintenance has been completed. Example: What checks would you carry out before placing the plant in service if that plant had been isolated for internal inspection under confined spaces procedures?
MSMBLIC001 - 3.1	Monitor Boiler Operations - Diagnose Operating Status of the Boiler	Discuss with your Mentor and list in your workbook three (3) ways you can determine the current operating status of your Boiler. Examples: senses - audible, alarms - visual.
MSMBLIC001 - 3.2	Monitor Boiler Operation - Maintain Operating Log	Explain to your Mentor what a boiler log is and why it is used. List in your workbook five (5) things you would normally include in the boiler log. Example: chemical test results, routine water level checks.
MSMBLIC001 - 3.3	Monitor Boiler Operation - Monitor Boiler, Valves, Fittings & Pressure Gauges	Discuss with your Mentor and list in your workbook five (5) pararmeters and five (5) plant items you would normally monitor when your boiler is in service. Examples: steam quality, boiler water level.
MSMBLIC001 - 3.4	Monitor Boiler Operation - Blow Boiler Water Level Gauges	Demonstrate to your Mentor, and list in your workbook the correct sequence for blowing down gauge glasses. Explain why this procedure is carried out and how often it should be performed.
MSMBLIC001 - 3.5	Monitor Boiler Operation - Test Standby Plant & Equipment	Discuss with your Mentor and list in your workbook three (3) checks carried out on standby plant associated your Boiler. Tests can include: Response checks, standby plant "cut in" tests, peformance tests.
MSMBLIC001 - 3.6	Monitor Boiler Operation - Conduct Boiler Water Quality Tests	Discuss with your Mentor and list in your workbook three (3) types of boiler and feedwater tests carried out on your plant. Explain to your Mentor why and how often these tests are carried out and record this in your workbook.
MSMBLIC001 - 3.7	Monitor Boiler Operation - Adjust Boiler Water Chemicals After Tests	Discuss with your Mentor and list in your workbook at least three (3) different types of chemicals used in your boiler and the reasons for their use. Example: Phosphate - to coagulate solids and allow effective blowdown to control TDS.

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MSMBLIC001 - 3.8	Monitor Boiler Operation - Activate the Automatic Blowdown	Discuss with your Mentor and list in your workbook all of the following: Explain how to engage the Automatic Blowdown when fitted. Explain the different methods of blowdown used on your Boiler. Explain what the different types of blowdown are and why they are used. Explain the difference between a Surface or Scum Blowdown and a Bottom Blowdown. Explain when Waterwall Headers should be blown down on Water Tube Boilers and why. Explain the purpose of a Blowdown Vessel and how it functions to control the boiler discharge. What should the ideal temperature of blowdown leaving the Blowdown Vessel be?
MSMBLIC001 - 3.9	Monitor Boiler Operation - Communicate Handover Information	Explain to your Mentor what information should be provided in a handover. List in your workbook five (5) things you would normally include in your handover. Example: any outstanding routine tests, operational incidents during previous shift.
MSMBLIC001 - 3.9A	Monitor Boiler Operation - Respond Immediately to any Boiler Emergency	Explain to your Mentor the different emergencies that could happen on your boiler. Where possible, demonstrate to your mentor the site procedures for different emergencies. List in your workbook five (5) possible emergencies and your response to those emergencies. Example: power failure - ensure all systems have shut down in a failsafe manner, bomb threat - follow site procedures.
MSMBLIC001 - 4.1	Shut Down Boiler - Shut Down the Boiler for Inspection	Explain to your Mentor, and list in your workbook the sequence of steps for a safe shutdown of your Boiler. Example(steps not in order): check valve settings in correct position, cooling down process does not exceed manufacturer's and site limits, all fuel successfully shut down.
MSMBLIC001 - 4.2	Shut Down Boiler - Identify Maintenance Requirements	Explain to your Mentor and list in your workbook the site procedure for reporting plant defects and faults.
MSMBLIC001 - 4.3	Shut Down Boiler - Complete Isolations	Discuss with your Mentor an list in your workbook three (3) maintenance tasks that may be required to be performed on your Boiler while it remains in service. Explain to your mentor and record in your workbook the safety precautions that must be taken to maintain the plant in a safe operating condition and protect maintenance staff while work is perfromed. Example: One boiler offline and a second boiler in service. Double isolation points required on steam and blowdown systems.
MSMBLIC001 - 4.4	Shut Down Boiler - Clean Boiler Internally & Externally	Explain to your Mentor and list in your workbook what types of cleaning is usually actioned on your Boiler when it comes out of service. Explain in your workbook why boiler cleaning is usually one of the first jobs done after coming out of service.

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MSMBLIC001 - 4.5	Shut Down Boiler - Complete Boiler Operating Log for Shutdown	Discuss with your Mentor and list in your workbook the checks and procedures used to perform a Boiler Shutdown on your Boiler. Explain and record in your workbook the information you would record in the Plant Log Book. Examples: All fuel checked isolated, all chemical pumps verified shut down.
MSMBLIC001 - 5.1	Store Boiler in Shutdown Mode - Identify Storage Time & Condition of Storage	Discuss with your Mentor and record in your workbook the different methods of storing your boiler when out of service. Record in your workbook a brief discription of the points you would take into consideration.
MSMBLIC001 - 5.2	Store Boiler in Shutdown Mode - Store Boiler in Safe Condition	Discuss with your Mentor and list in your workbook the advantages and disadvantages of storing your Boiler under the following conditions: Wet or dry storage, open or closed storage.
MSMBLIC001 - 5.3	Store Boiler in Shutdown Mode - Test Stored Boiler Water & Chemicals	Explain to your Mentor and record in your workbook what checks and tests would need to be actioned on your Boiler during extended periods of storage.

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