



Australian Government

MEM48018 Monitor primary steel making process

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCM507A Monitor primary steelmaking process.

Application

This unit of competency defines the knowledge and skills required to monitor and control the operation of a basic oxygen steel making (BOS) furnace.

It applies where a technician will be required to utilise a Supervisory Control and Data Acquisition (SCADA) system to monitor the processing of melting steel scrap, charging of molten iron and associated materials within the BOS furnace and on completion, transfer to a ladle, ensuring that quantities, temperatures and all procedures are used in accordance with parameters provided and standard operating procedures (SOPs).

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MEM48004 Interpret basic binary phase diagrams

MEM48011 Apply basic chemical principles to metallurgy

MEM48012 Calculate and predict chemical outcomes in metallurgical situations

Competency Field

Metallurgy

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from work information

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Access and use SCADA system	2.1 Find all relevant screens and information within SCADA system 2.2 Interpret and acknowledge messages 2.3 Input and output information according to work requirements
3. Make required changes	3.1 Adjust production and/or process in response to SCADA information in accordance with procedures 3.2 Apply metallurgical principles to determine and prioritise required actions in accordance with SOPs 3.3 Record adjustments and variations to specifications and/or schedules and report to appropriate personnel 3.4 Refer all events outside of parameters or SOPs to appropriate personnel for remedial action immediately

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

System Control and Data Acquisition (SCADA) system includes one or more of the following:	• field instrumentation • field controller (RTU or PLC) • human-machine interface (HMI) • network connectivity • data storage (on-site or cloud).
Metallurgical principles include:	• preparation and selection of raw materials • characteristics of iron ore • pelletising • sintering

	• iron blast furnace operations • blast furnace slags • principles of iron making • techniques for increasing blast furnace productivity.
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSATCM507A Monitor primary steelmaking process.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>