



Australian Government

Department of Education, Employment and Workplace Relations

PMA30108 Certificate III in Process Plant Operations

Revision Number: 3

PMA30108 Certificate III in Process Plant Operations

Modification History

Release 3 - MEM elective unit code corrected: MEM11011B

Release 2 - Addition of new electives: PMASUP244A, NWP357B

Description

The Certificate III in Process Plant Operations has been developed as a technical qualification for use in the Chemical, Hydrocarbons and Refining Training Package (PMA08).

Job roles/employment outcomes

The Certificate III in Process Plant Operation is intended for advanced operators and operations technicians who use production equipment to directly produce products. At this level, operators/technicians would undertake more advanced operations, typically of integrated plant units in accordance with the operating procedures, and would apply their knowledge to anticipate problems. They would be expected to solve a range of foreseen and unforeseen problems, using product and process knowledge to develop solutions to problems which do not have a known solution, or a solution recorded in the procedures.

The Certificate III in Process Manufacturing MSA30107 is available for production support employees at this level and should be used where the job requirements do not allow for the development of competency in sufficient technical units of competency. The Certificate III in Competitive Manufacturing MCM30104 is available for employees at this level where the job requires sophisticated manufacturing practice skills rather than technical skills.

Application

This qualification is typically used to develop employees performing an advanced operational role that includes an ability to work independently and conduct technical problem solving according to the needs of the work in the chemical, hydrocarbons or refining sectors.

Operators may specialise in one of the following areas:

- fine chemicals
- heavy chemicals
- petrochemicals
- polymer manufacture
- hydrocarbon extraction
- hydrocarbon transmission
- hydrocarbon processing/refining
- minerals processing/refining
- metals smelting/processing
- other related areas.

Specialisations must be reflected by the selection of units identified for specialised streams. Training programs for this qualification are suitable to be undertaken as part of a formal training contract with an employer under an Australian Traineeship or Apprenticeship arrangement.

Pathways Information

Pathways into the qualification

This qualification may be accessed by direct entry. Credit may be granted towards this qualification by those who have completed MSA20107 Certificate II in Process Manufacturing, PMA20110 Certificate II in Process Plant Operation or other relevant qualifications. Credit for this qualification may also include units contained within relevant skill sets.

Pathways from the qualification

Further training pathways from this qualification include PMA40110 Certificate IV in Process Plant Technology, MSA41108 Certificate IV in Competitive Manufacturing or MSA40108 Certificate IV in Manufacturing Technology or other relevant qualifications.

Additional qualification advice

An industry specialisation should include a range of units (typically production or other units relevant to the specialisation) that focus more on the industry speciality than a generic qualification.

MSA30107 Certificate III in Process Manufacturing, in the MSA07 Manufacturing Training Package is available for production support employees at this level and should be used where the job requirements do not allow for the development of competency in sufficient technical units of competency.

MSA31108 Certificate III in Competitive Manufacturing is available for employees at this level who already possess technical skills and who require additional manufacturing practice skills above those available in this qualification.

Licensing/Regulatory Information

There are no specific licences that relate to this qualification. However, in some jurisdictions some units of competency in this qualification may have licensing or regulatory requirements. Local regulations should be checked for details.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • maintain communication about multiple subjects and with multiple audiences • complete incident and other reports • use technical information and manufacturer's information • collect, analyse & organise information • communicate ideas and information • use and contribute to workplace documentation • maintain workplace records
Teamwork	<ul style="list-style-type: none"> • identify and describe own role and role of other • work within a team • resolve conflicts between team members • teamwork strategies
Problem-solving	<ul style="list-style-type: none"> • recognise a problem or a potential problem in a plant unit, system or area. • determine problems needing priority action. • refer problems outside area of responsibility to appropriate person, with possible causes. • identify appropriate theory base for problem • seek information and assistance as required to solve problems. • solve problems within area of responsibility for plant unit, system or area. • follow through items initiated until final resolution has occurred. • identify and isolate faults in equipment • use a range of formal problem solving techniques
Initiative and enterprise	<ul style="list-style-type: none"> • identify the most appropriate process conditions for unit, system or area • make adjustments to improve performance of unit, system or area • anticipate the impact of the process on the product and other process areas • determine problems needing action • recommend required action • report problems outside area of responsibility • distinguish between causes of faults

Planning and organising	<ul style="list-style-type: none">• prioritise actions to achieve required outcomes for unit, system or area• plan own work requirements and assist others to plan theirs• plan scope of unit, system or plant area checks• plan and organise activities• identify tasks to achieve team goals.• organise allocation of tasks.• monitor completion of allocated tasks• develop and adjust a production schedule
Self-management	<ul style="list-style-type: none">• plan own work requirements from production requests• operate within appropriate time constraints and work standards• select and use appropriate equipment, materials, processes and procedures• plan to ensure effective production• apply workplace procedures• identify resource requirements, document and monitor• recognise limitations and seek timely advice
Learning	<ul style="list-style-type: none">• ask questions to gain information• identify sources of information to expand knowledge and understanding• participate in improvement procedures• participate in development of continuous improvement strategies• helps others develop competency
Technology	<ul style="list-style-type: none">• operation and adjustment of unit, system or plant area processes• start up and shut down unit, system or plant area• set up unit, equipment or plant area• monitor product/process quality• function and operating principles of unit, system or plant area• maintain workplace records

Packaging Rules

To be awarded the Certificate III in Process Plant Operations competency must be achieved in **twenty one (21)** units of competency chosen:

- **five (5)** core units of competency
- **sixteen (16)** elective units of competency as specified below.

Note

Where prerequisite units apply, these must be considered in the total number of units chosen.

Core units of competency

Unit code	Unit title
MSAENV272B	Participate in environmentally sustainable work practices
MSAPMOHS110A	Follow emergency response procedures
MSAPMOHS200A	Work safely
MSAPMSUP100A	Apply workplace procedures
MSAPMSUP102A	Communicate in the workplace

Elective units of competency

Select **sixteen (16)** units as specified below:

- A minimum of **two (2)** from Group A
- The remainder may be chosen from Groups A, B and C (with a maximum of **twelve (12)** from Group C) to bring the total number of electives to **sixteen (16)**.

Note that up to **four (4)** of the elective units can be chosen from other qualifications in this Training Package, other endorsed Training Packages and accredited courses, as specified in Groups B and C.

Group A – Specialist electives

Unit code	Unit title	Prerequisites
FDFPHGMP3A	Monitor the implementation of Good Manufacturing Practice procedures	
MEM07033B	Operate and monitor basic boiler	
MEM07034A	Operate and monitor intermediate class boiler	MEM07033B
MEM18011C	Shutdown and isolate machine	

NWP357B	Monitor, operate and control reverse osmosis and nano-filtration processes	
PMAOPS300B	Operate a production unit	
PMAOPS301B	Produce products by distillation	PMAOPS201B Co-requisite unit PMAOPS205B
PMAOPS302B	Operate reactors and reaction equipment	
PMAOPS303B	Operate furnaces to induce reaction	
PMAOPS304B	Operate and monitor compressor systems and equipment	Co-requisite unit PMAOPS221B
PMAOPS305B	Operate process control systems	
PMAOPS307B	Transfer bulk fluids into/out of storage facility	PMAOPS201B
PMAOPS308B	Organise storage and logistics of general materials	
PMAOPS309B	Operate particulates handling/ storage equipment	
PMAOPS312B	Undertake ship loading/unloading operations	
PMAOPS319A	Adjust batch	
PMAOPS320B	Conduct artificial lift	
PMAOPS321B	Undertake well management	
PMAOPS323A	Operate and monitor heating furnace	
PMAOPS324A	Operate a gas turbine	
PMAOPS325B	Generate electrical power	
PMAOPS326B	Produce product using gas absorption	
PMAOPS327B	Produce product using fixed bed dehydration	
PMAOPS329B	Produce product using liquid extraction	
PMAOPS330B	Communicate pipeline control centre operations	

PMAOPS333A	Operate wells and gathering systems	
PMAOPS335A	Conduct pipeline pigging	
PMAOPS340B	Operate cryogenic processes	
PMAOPS350B	Match and adjust colour	
PMAOPS390B	Operate a biochemical process	
UEPOPS340A	Operate and Monitor a Steam Turbine	

One (1) unit may be chosen from Group A in PMA40108 Certificate IV in Process Plant Technology

Group B

Unit code	Unit title	Prerequisites
MEM09003B	Prepare basic engineering drawing	MEM09002B
MSAPMOHS300A	Facilitate the implementation of OHS for a work group	MSAPMOHS200A
MSAPMPER300C	Issue work permits	RIIRIS201A
MSAPMSUP300A	Identify and implement opportunities to maximise production efficiencies	MSAPMSUP200A
MSAPMSUP301A	Apply HACCP to the workplace	
MSAPMSUP303A	Identify equipment faults	
MSAPMSUP309A	Maintain and organise workplace records	
MSAPMSUP310A	Contribute to development of plant documentation	
MSAPMSUP330A	Develop and adjust a production schedule	
MSAPMSUP382A	Provide coaching/mentoring in the workplace	
MSAPMSUP383A	Facilitate a team	

MSAPMSUP390A	Use structured problem solving tools	
PMAOHS310B	Investigate incidents	
PMAOHS311B	Lead emergency teams	
PMAOHS312B	Command the operation of survival craft	MSAPMOHS220A
PMAOHS320C	Provide advanced first aid response	MSAPMOHS220A
PMAOHS321B	Provide first aid response in remote and/or isolated area	MSAPMOHS220A
PMAOMIR301B	Undertake initial rescue	MSAPMOHS216A MSAPMOHS217A MSAPMOHS220A MSAPMPER200C MSAPMPER205C
PMAOMIR302B	Respond to a helideck incident	
PMAOMIR317B	Facilitate search and rescue operations	
PMAOMIR320B	Manage incident response information	
PMAOMIR321B	Manage communication systems during an incident	
PMAOMIR346B	Assess and secure an incident site	
PMASUP305A	Operate Offshore Cranes	
PMASUP311A	Operate communications hub	
PMASUP341B	Monitor and maintain instrument and control systems	MSAPMPER300C
PMASUP342B	Monitor and maintain electrical systems	MSAPMPER300C
PMASUP343B	Monitor and maintain cathodic protection systems	
PMASUP344B	Monitor and control repairs and modifications on operational pipe	
PMASUP345A	Monitor vibration	
PMASUP346A	Control corrosion	

PMASUP347A	Undertake corrosion inspection in a petrochemical environment	
PMLTEST300B	Perform basic tests	
PSPGOV308B	Work effectively with diversity	
TAEASS301A	Contribute to assessment	
TAEDEL301A	Provide work skill instruction	

Up to **one (1)** relevant unit may be chosen from this Training Package, other endorsed Training Packages and accredited courses where the unit is available at Certificates III or IV.

Group C

Unit code	Unit title	Prerequisites
FDFPHGMP1A	Follow work procedures to maintain Good Manufacturing Practice	
FDFPHGMP2B	Implement Good Manufacturing Practice procedures	
MEM05012C	Perform routine manual metal arc welding	
MEM09002B	Interpret technical drawing	
MEM11011B	Undertake manual handling	
MEM16005A	Operate as a team member to conduct manufacturing, engineering or related activities	
MSACMS201A	Sustain process improvements	
MSACMT230A	Apply cost factors to work practices	
MSACMT231A	Interpret product costs in terms of customer requirements	
MSACMT240A	Apply 5S procedures in a manufacturing environment	

MSACMT250A	Monitor process capability	
MSACMT251A	Apply quality standards	
MSACMT260A	Use planning software systems in manufacturing	
MSACMT270A	Use sustainable energy practices	
MSACMT271A	Use sustainable environmental practices	
MSACMT280A	Undertake root cause analysis	
MSACMT281A	Contribute to the application of a proactive maintenance strategy	
MSAPMOHS100A	Follow OHS procedures	
MSAPMOHS205A	Control minor incidents	
MSAPMOHS210B	Undertake first response to non-fire incidents	
MSAPMOHS212A	Undertake first response to fire incidents	
MSAPMOHS216A	Operate breathing apparatus	
MSAPMOHS217A	Gas test atmospheres	
MSAPMOHS220A	Provide initial first aid response	
MSAPMOPS100A	Use equipment	
MSAPMOPS102A	Perform tasks to support production	
MSAPMOPS200A	Operate equipment	
MSAPMOPS212A	Use enterprise computers or data systems	
MSAPMPER200C	Work in accordance with an issued permit	
MSAPMPER201A	Monitor and control work permits	
MSAPMPER202A	Observe permit work	MSAPMPER200C
MSAPMPER205C	Enter confined space	MSAPMPER200C
MSAPMSUP101A	Clean workplace or equipment	
MSAPMSUP106A	Work in a team	

MSAPMSUP172A	Identify and minimise environmental hazards	
MSAPMSUP200A	Achieve work outcomes	
MSAPMSUP201A	Receive or despatch goods	
MSAPMSUP204A	Pack products or materials	
MSAPMSUP205A	Transfer loads	
MSAPMSUP210A	Process and record information	
MSAPMSUP240A	Undertake minor maintenance	
MSAPMSUP280A	Manage conflict at work	
MSAPMSUP291A	Participate in continuous improvement	
MSAPMSUP292A	Sample and test materials and product	
MSL952001A	Collect routine site samples	
PMAOHS211B	Prepare equipment for emergency response	
PMAOHS213B	Undertake fire control and emergency rescue	
PMAOHS214B	Undertake helicopter safety and escape	
PMAOHS215B	Apply offshore facility abandonment and sea survival procedures	
PMAOHS221B	Maintain first aid supplies and records	
PMAOMIR210B	Control evacuation to muster point	
PMAOPS101C	Read dials and indicators	
PMAOPS105C	Select and prepare materials	
PMAOPS201B	Operate fluid flow equipment	
PMAOPS202B	Operate fluid mixing equipment	
PMAOPS203B	Handle goods	
PMAOPS204B	Use utilities and services	
PMAOPS205B	Operate heat exchangers	

PMAOPS206B	Operate separation equipment	
PMAOPS207B	Operate powered separation equipment	
PMAOPS208B	Operate chemical separation equipment	
PMAOPS210B	Operate particulates handling equipment	
PMAOPS211B	Operate manufacturing extruders	
PMAOPS213B	Package product/material	
PMAOPS216B	Operate local control system	
PMAOPS217B	Operate wet milling equipment	
PMAOPS220B	Monitor chemical reactions in the process	
PMAOPS221B	Operate and monitor prime movers	
PMAOPS222B	Operate and monitor pumping systems and equipment	Co-requisite unit PMAOPS221B
PMAOPS223B	Operate and monitor valve systems	
PMAOPS224B	Provide fluids for utilities and support	
PMAOPS230B	Monitor, operate and maintain pipeline stations and equipment	
PMAOPS231B	Control gas odourisation	
PMAOPS232B	Produce product by filtration	
PMAOPS233A	Monitor wells and gathering systems	
PMAOPS234A	Monitor and operate low pressure compressors	
PMAOPS240B	Store liquids in bulk	
PMAOPS241A	Operate Joule-Thomson effect device	
PMAOPS280B	Interpret process plant schematics	
PMAOPS290B	Operate a biotreater	
PMASMELT260B	Form carbon anodes	

PMASMELT261B	Bake carbon anodes	
PMASMELT262B	Clean and strip anode rods	
PMASMELT263B	Spray carbon anodes	
PMASMELT264B	Start up reduction cells	
PMASMELT265B	Operate reduction cells	
PMASMELT266B	Deliver molten metal	
PMASMELT267B	Cast aluminium ingots	
PMASMELT268B	Vertical direct casting	
PMASMELT269A	Operate cell tending equipment	
PMASMELT270A	Supply product from reduction cells	
PMASUP236B	Operate vehicles in the field	
PMASUP237B	Undertake crane, dogging and load transfer operations	
PMASUP241B	Maintain pipeline easements	
PMASUP242B	Monitor pipeline civil works	
PMASUP243B	Monitor and maintain pipeline coatings	
PMASUP244A	Prepare and isolate plant	
RIIOHS204A	Work safely at heights	
RIIRIS201A	Conduct local risk control	
TLID1007C	Operate a forklift	
UEPOPS319A	Operate and Monitor Gas Production Plant	

Up to **three (3)** relevant units may be chosen from this Training Package, other endorsed Training Packages and accredited courses where those units are available at Certificates II or III.