



Australian Government

MSS405023 Develop a levelled pull system for operations and processes

Release: 1

MSS405023 Develop a levelled pull system for operations and processes

Modification History

Release 1. Supersedes and is equivalent to MSS405023A Develop a levelled pull system for operations and processes

Application

This unit of competency covers the skills and knowledge required to develop and level a customer-driven demand pull system for operations and processes in order to balance the flow of work and minimise inventories.

This unit primarily applies to volume-based manufacturing organisations. However, the skills covered by the unit may also be applied in other organisations where the business is based on high volume processes initiated by customer demand signals (e.g. orders). The unit covers the production planning skills needed to develop and level a demand pull system which meets the business needs of the organisation. This may apply to the initial development of a pull system, or the continuous improvement of an existing system.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective operations sequences and flow systems. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into system designs.

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

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 **Analyse production systems**
 - 1.1 Acquire an 'as is' value map of the process for all major products.
 - 1.2 Separate repeated products from specials.
 - 1.3 Consult with production, maintenance, supervisory and management workforce on current production system and processes.
 - 1.4 Establish rate of flow required to meet customer demand.
 - 1.5 Identify process steps causing problems.
 - 1.6 Analyse inventories within process and determine causes of high inventories.
 - 1.7 Determine costs of problems and inventories.
 - 1.8 Develop improved flow sequence and future value map.

- 2 **Establish sequence**
 - 2.1 Identify equipment and processes which can be sequenced by co-location.
 - 2.2 Identify equipment which is not suitable for co-location.
 - 2.3 Identify pacemaker process.
 - 2.4 Establish/review location of equipment for desired sequencing.

- 3 **Initiate or develop flow system**
 - 3.1 Determine rate and variability of demand for product.
 - 3.2 Compare capability of flow sequence to demand rate and variability.
 - 3.3 Set flow rate to level demand at pacemaker and handle variability.
 - 3.4 Identify trigger for pacemaker process.
 - 3.5 Establish kanban system for other process parts.

- 4 **Balance the work**
 - 4.1 Determine target time per product.

- 4.2 Standardise work processes and operations and establish procedures to monitor variation.
- 4.3 Adjust product/batch production to balance work.
- 4.4 Arrange for any required competency development of workforce.
- 4.5 Arrange for implementation of system.
- 4.6 Monitor operation of system and take action according to procedures.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more of:

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving

- run charts
 - standard procedures
 - current reality tree.
- Inventories within process include one or more of:**
- cycle stock which reflects the replenishment quantity and frequency
 - buffer stock to meet demand variability and forecast errors
 - safety stock required to guard against quality and delivery failures upstream.
- Balance the work means balancing one or more of:**
- time of production
 - effort required by workforce and equipment
 - work organisation
 - job design
 - quality considerations
 - waste and other cost considerations between stations/ equipment/processes to achieve levelled pull within allowable time per product.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>