

**SKILLS FRAMEWORK FOR BIOPHARMACEUTICALS MANUFACTURING
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	General Management					
TSC	Continuous Improvement					
TSC Description	Apply continuous improvement strategies to improve products, services or processes across the organisation					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		BPM-GMT-2008-1.1	BPM-GMT-3008-1.1	BPM-GMT-4008-1.1	BPM-GMT-5008-1.1	
		Apply continuous process improvement to workplace activities	Implement systems and processes relating to continuous improvement	Facilitate the organisation's systems and processes relating to continuous improvement	Establish systems and processes to enable continuous improvement and lead change management efforts	
Knowledge		<ul style="list-style-type: none"> Purposes of continuous improvement Types of improvement goals Types of continuous process improvement techniques Procedures for making action plans Concepts and methods of continuous process improvement Types of performance indicators Procedures for carrying out continuous improvement activities Methods to track and measure progress of improvement activities Procedures for reporting improvement activities outcomes 	<ul style="list-style-type: none"> Organisational continuous improvement goals Organisational goals and targets Organisational structure, functions, resources, policies, procedures and culture Components and methods of conducting feasibility studies Continuous improvement systems, tools, techniques, systems and processes Internal and external benchmarks for best practices Indicators of performance 	<ul style="list-style-type: none"> Critical organisational processes and their interdependencies Key Performance Indicators (KPIs) of the organisation and various functions Techniques and strategies for performing feasibility assessments Strategies, tools and techniques in continuous process improvement Training needs analysis for new or enhanced processes Techniques to evaluate implementation success 	<ul style="list-style-type: none"> Industry best practices in biopharmaceuticals manufacturing New and emerging trends and technologies in the biopharmaceuticals and related industries Productivity and quality enhancement strategies Waste minimisation strategies Methods of formulating continuous improvement systems Organisation culture building strategies Change management strategies, tools and practices 	
Abilities		<ul style="list-style-type: none"> Identify opportunities for improvements within one's work areas Propose workflow improvements to enhance efficiency Carry out the improvement activities in 	<ul style="list-style-type: none"> Recommend plans for improvements and seek approval for deployment with relevant personnel Support feasibility studies of new equipment, procedures or processes 	<ul style="list-style-type: none"> Identify key organisational or operational processes that require improvements Direct continuous improvement activities and initiatives 	<ul style="list-style-type: none"> Establish organisation-wide continuous improvement systems and structures Keep abreast of industry best practices and trends in biopharmaceuticals manufacturing 	

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		<p>accordance with the action plans</p> <ul style="list-style-type: none"> • Apply new or improved processes in daily work operations and activities • Rectify minor issues that hinder the execution of continuous improvement activities • Gather data to track the progress of improvement activities • Report the outcomes of improvement activities in accordance with organisational procedures 	<ul style="list-style-type: none"> • Implement plans for the improvements of products, services or processes in consultation with relevant stakeholders and process owners • Deploy changes in processes or procedures as a result of continuous improvement initiatives • Monitor the implementation of continuous improvement plans against the identified benchmarks and measures • Review performance levels before and after the implementation to analyse effectiveness • Identify further improvement opportunities 	<ul style="list-style-type: none"> • Conduct feasibility assessments of new or recommended improvements to equipment, procedures or processes • Oversee the introduction of new equipment, procedures or processes • Manage systems and processes to facilitate continued improvement • Design and apply improvement strategies and tools • Evaluate production and performance information to measure success of improvements • Develop training plans for new or enhanced processes 	<ul style="list-style-type: none"> • Evaluate applicability of new and emerging equipment, technologies, procedures and processes used in the industry or adjacent industries • Commission feasibility assessments • Develop strategies to optimise the manufacturing facilities' efficiency and minimise waste • Develop organisation-wide plans for the introduction of new equipment, procedures or processes • Manage change to facilitate transition or incorporation of new equipment, procedures or processes • Spearhead a culture of continuous improvement within the organisation • Review and approve recommendations on significant changes that need to be made to resources, procedures, systems, equipment or technologies 	
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