

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

TSC Category	Engineering and Maintenance					
TSC	Facility Maintenance					
TSC Description	Manage facility system maintenance activities to manufacturing and business operations					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		BPM-ENM-2008-1.1	BPM-ENM-3008-1.1	BPM-ENM-4008-1.1		
		Perform routine maintenance of facilities	Oversee facility maintenance activities	Provide technical expertise to optimise day-to-day operations, maintenance and troubleshooting of the facility systems		
Knowledge		<ul style="list-style-type: none"> Types of facility distribution systems and networks Manufacturing plant internal distribution systems and network maintenance Types of warning devices and fault indicators Fault diagnostic procedures Testing procedures Health, Safety and Environment (HSE) practices related to maintenance procedures Maintenance recording procedures 	<ul style="list-style-type: none"> Types, functionality and operating parameters of different facility systems Maintenance procedures for facility systems Principles of mechanical, hydraulic and electrical systems Principles of mechanical engineering 	<ul style="list-style-type: none"> Types of distribution systems and networks Distribution systems and networks maintenance Types of performance metrics and monitoring parameters Incident escalation procedures Troubleshooting techniques End-to-end biopharmaceuticals manufacturing processes 		
Abilities		<ul style="list-style-type: none"> Perform daily operational checks and inspections on distribution systems and networks Interpret fault codes from alarm panels to identify faults Rectify faults using correct techniques, procedures, tools and equipment Adhere to relevant HSE risk control measures 	<ul style="list-style-type: none"> Identify facility systems functions in the manufacturing processes Manage day-to-day operations, and maintenance of plant distribution systems and networks Conduct large-scale and facility-wide maintenance activities 	<ul style="list-style-type: none"> Verify distribution systems and networks performance Analyse facility systems performance in accordance with specifications Identify improvements to enhance the effectiveness of facility systems Determine appropriate maintenance procedures 		

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		when conducting maintenance works <ul style="list-style-type: none">• Report facility system maintenance activities according to workplace reporting requirements	<ul style="list-style-type: none">• Ensure maintenance works are conducted in compliance with Health, Safety and Environment policies, procedures and regulations	that will enhance facility system performance <ul style="list-style-type: none">• Outline standard quality and safety procedures to adhere to during maintenance works		
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