

TSC Category	Laboratory Management					
TSC	Laboratory Equipment Maintenance and Calibration Management					
TSC Description	Maintain laboratory equipment to ensure maximum availability of equipment and accuracy of measurements based on the organisation's standards and vendors' operating, maintenance and calibration instructions					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		ECM-LAB-2002-1.1	ECM-LAB-3002-1.1	ECM-LAB-4002-1.1	ECM-LAB-5002-1.1	
		Apply laboratory maintenance and calibration procedures to assist in the maintenance, troubleshooting and standard calibration of laboratory equipment	Interpret laboratory maintenance and calibration procedures including referring to vendor equipment information to perform maintenance, troubleshooting and non-standard calibration of laboratory equipment	Develop laboratory maintenance and calibration preventive regimes to ensure the availability and reliability of laboratory equipment	Evaluate laboratory preventive maintenance and calibration regimes to ensure effective implementation and recommend improvements	
Knowledge		<ul style="list-style-type: none"> Instrument calibration procedures for instruments Types of measuring equipment Laboratory equipment calibration techniques and methods Equipment cleaning and maintenance techniques Equipment troubleshooting techniques Procedures to report non-conformance 	<ul style="list-style-type: none"> Instrument calibration procedures for all laboratory instruments Types of measuring equipment Equipment cleaning and maintenance methods Laboratory equipment calibration methods Laboratory equipment troubleshooting techniques Vendors' equipment information including operating manuals and maintenance instructions 	<ul style="list-style-type: none"> Calibration acceptance ranges and parameters tolerance limits Vendors' equipment calibration and maintenance routines and instructions Calibration planning and scheduling Maintenance planning and scheduling Equipment troubleshooting methods 	<ul style="list-style-type: none"> Industry standard calibration acceptance ranges and parameters tolerance limits Vendors' equipment calibration and maintenance routines and instructions Best practices for equipment calibration programmes Maintenance contracting methods 	

**SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

Abilities		<ul style="list-style-type: none"> • Apply equipment calibration procedures • Maintain complete and accurate calibration records • Set up and prepare testing equipment • Prepare reagents, additives and materials • Assist in troubleshooting using correct techniques, procedures, tools and equipment • Perform test equipment cleaning and maintenance • Report specification non-conformances using the correct reporting template 	<ul style="list-style-type: none"> • Interpret laboratory maintenance and calibration procedures • Identify errors with measuring equipment • Make corrective adjustments and maintenance for laboratory equipment • Conduct equipment pre-operational checks and inspections • Perform basic troubleshooting and maintenance using the correct techniques, procedures, tools and equipment • Record calibration results • Interpret calibration data of measuring equipment • Apply operational procedures to set up instruments • Perform equipment cleaning and maintenance 	<ul style="list-style-type: none"> • Supervise laboratory equipment maintenance and calibration • Review laboratory equipment pre-operational checks and inspection records • Develop, review and modify laboratory calibration and maintenance procedures • Review calibration of equipment reports based on organisational procedures • Review equipment calibration non-conformance from specifications 	<ul style="list-style-type: none"> • Oversee laboratory equipment maintenance and calibration activities • Recommend appropriate methodologies to improve equipment performance • Endorse preventive maintenance and calibration regimes by making reference to vendors' equipment information and organisational standards • Approve laboratory equipment operational and testing procedures • Approve maintenance contracts for equipment 	
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