TSC Category	Process Operations Management					
TSC	Engineering Drawing Interpretation and Management					
TSC Description	Use engineering drawings including Process Flow Diagrams (PFDs), Piping and Instrument Diagrams (P&IDs), process equipment datasheets, vendor equipment engineering drawings and/or layouts and equipment datasheets, to support operations, maintenance and engineering activities					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
	ECM-POM-1002-1.1	ECM-POM-2002-1.1	ECM-POM-3002-1.1	ECM-POM-4002-1.1	ECM-POM-5002-1.1	
	Identify engineering drawings and documentation describing layout, location, interconnection, design and operational parameters, operating and safety design limits to support basic operations and maintenance activities	Select and apply engineering drawings and documentation describing layout, location, interconnection, design and operational parameters, operating and safety design limits to support operations and maintenance activities	Interpret engineering drawings and documentation describing layout, location, interconnection, design and operational parameters, operating and safety design limits to coordinate operations and maintenance activities	Analyse engineering drawings and documentation describing layout, location, interconnection, design and operational parameters, operating and safety design limits to supervise operations, maintenance and engineering activities and for continuous process improvement related projects	Validate engineering drawings and documentation describing layout, location, interconnection, design and operational parameters, operating and safety design limits to manage operations, maintenance and engineering activities	
Knowledge	• Basic engineering drawings and symbols • Purpose of Process Flow Diagrams (PFDs) • Purpose of Process Engineering Flow Schemes (PEFSs) • Methods of using Piping and Instrumentation Diagrams (P&IDs) • Methods of reading equipment datasheets	• Principles of engineering drawing standards • Methods of interpreting engineering drawings and diagrams • Methods of equipment and system identification using alpha numeric tag numbering systems • Document control management systems • Terminologies of standard drawing components • Engineering abbreviations and terms • Drawing sizes and scaling	• International standards and symbols • Detailed assembly drawings • Principles of detailed electrical one-line, power generation and distribution diagrams • Principles of instrumentation diagrams including loop diagrams, connection details and system overviews • Vendor engineering drawings and datasheets • Technical lettering and symbols • Instrument Society of America (ISA) standards	• Document control and management systems • Engineering drawing design standards and symbol conventions • Storage and security of engineering drawings • Methods of document filing • Methods of maintaining working files	• Methods of managing the development of engineering drawing documents • Methods of maintaining documentation • Methods of evaluating engineering drawing techniques	

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Abilities	• Locate and select correct drawings for units or systems • Read and interpret PFDs • Using P&IDs to identify the general flow of plant processes and equipment	• Locate, interpret and use datasheets when performing plant operations • Use engineering drawings to perform plant operations • Use engineering drawings when interfacing with and supporting maintenance teams	• Interpret Process Flow Diagrams (PFDs), Piping and Instrument Diagrams (P&IDs) and other engineering drawings to support work activities • Interpret datasheets and other technical documentation to support work activities • Use technical engineering drawings and datasheets when collaborating with other disciplines to support work activities • Apply technical engineering drawings and datasheets during preparation for maintenance activities	• Analyse Process Flow Diagrams (PFDs), Piping and Instrumentation Diagrams (P&IDs) and other engineering drawings and documentation • Supervise work activities for continuous process improvement related projects • Facilitate the use of technical engineering drawings and datasheets when supervising preparations for operations or maintenance work activities • Supervise correct documentation control, storage and security of drawings and data	• Manage operations and maintenance troubleshooting and fault-finding activities • Manage critical reviews of engineering drawings and designs	