POWER ENGINEERING COMPETENCY FRAMEWORK FOR POWER ENGINEERING PROFESSIONALS IN PUBLIC SERVICE
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT

TSC Category	Digitalisation					
TSC Title	Business Intelligence and Data Analytics					
TSC Description	Utilise business intelligence tools and data analytics techniques to uncover trends and generate insights to anticipate issues and formulate optimal solutions					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
		<Insert TSC Code>	**<Insert TSC Code>**	**<Insert TSC Code>**	**<Insert TSC Code>**	
		Apply business intelligence tools and data analytics techniques to process and interpret data of limited complexity	Analyse data using business intelligence tools and data analytics techniques to identify trends and patterns	Utilise business intelligence and analytics insights to address operational gaps and formulate optimal solutions	Leverage business intelligence and big data insights for strategic decision-making	
Knowledge		• Business intelligence concepts and definitions • Scientific and technical terminology • Statistics and scientific calculations • Operations of statistical techniques including mean, median, regression analysis • Practices in record management • Procedures for data management • Data management platforms and software	• Business intelligence and analytics software • Statistics and scientific calculations • Data management platforms and software • Procedures for data traceability • Procedures for verifying data and rectifying mistakes • Records management	• Business intelligence and analytics applications • Operations of statistical techniques, e.g. probability theory, probability distribution and hypothesis testing • Test conditions required for various statistical techniques • Interpretation of results from statistical modelling • Modelling software • Statistical data analysis application • Business intelligence and analytics tools and techniques	• Data mining models • Strengths and limitations of various statistical techniques in evaluating big and complex data sets • Methods of manipulating statistical techniques for customised big data analytics • Factors that determine applicability of statistical models for big data analytics	

Abilities		• Apply business intelligence tools and digital dashboards to support data analysis • Perform calculations of scientific quantities • Use scientific notations • Interpret trends of data • Identify correlation and regression models of data variables • Validate accuracy of data • Enhance quality of data collected by scrubbing and removing duplicates • Maintain confidentiality of data by storing all electronic data in password-protected computers or files	• Analyse data using business intelligence tools and digital dashboards • Perform data computations • Identify trends and/or problems using data sets • Analyse statistics and graphical results • Interpret data collected for categorisation into areas for process improvement • Collaborate with stakeholders to identify additional and more specific data for further analysis • Maintain security and confidentiality of data	• Create multidimensional reports using business intelligence tools and digital dashboards Leverage on insights generated from the report to identify operational gaps • Use statistical tests to estimate uncertainties and determine data acceptability • Identify and analyse potential causes of unacceptable data, or results, to troubleshoot performance • Develop solutions to address operational gaps • Develop new methods to conduct analyses of large complex data sets • Facilitate discussion on areas for application of big data analytics to examine issues	• Formulate strategies for the business based on the big data insights • Perform forecasting using business intelligence tools and digital dashboards • Evaluate data mining models • Formulate approaches used in big data analytics to more bespoke solutions addressing shortfalls in the current system • Devise different analytical toolsets to provide arrays of integrated solutions for improving business processes through big data analytics • Integrate processes with data funnels • Synthesis data across entire departments, electrical equipment systems and network for monitoring and process improvement • Guide colleagues in the refinement of big data and statistical analytics, specific to the electrical and power business	